An Oration
ON
THE DECLENSION OF PHTHISIS (PULMONARY TUBERCULOSIS).

Delivered before the Hunterian Society on Feb. 8th, 1899,

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JOHN HUNTER'S VIEWS.

MR. PRESIDENT AND GENTLEMEN,—The great John Hunter remarked that the tubercle of the lungs depended upon the same constitutional disease as scrofula and that tubercles were the cause of consumption. He remarked that it was a specific disease to which animals were liable, probably from the same causes; that it was only the readiness to fall into this particular action when properly irritated which was hereditary—only susceptibility, and that some persons had peculiar susceptibility. Hunter stated that damp and cold were great disposers, but not dry cold, also saying that tubercle was frequent in those countries where little else but vegetable diet was eaten. He recommended if the symptoms were seen early that we should send the patients for a change of climate at once. These pregnant remarks scattered through his lectures are estimated at the present day as most just and important truths.

RELIABILITY OF FIGURES.

The declension of phthisis is a prominent feature in the recent history of this disease in England and Wales. To study this declension the first necessity is accurate vital statistics. Dr. J. Tatham in his evidence before the Royal Commission upon Tuberculosis exhibited tables showing the death-rate from phthisis in England and Wales at each age group of the population from the decennium 1851–60 to the quinquennium 1891–95; he further exhibited for the three decennia 1861–70, 1871–80, and 1881–90 the phthisis rate in the registration counties and for the last of these decennia the rate corrected for age and sex distribution of their several populations. (The correction is made by applying the age and sex distribution of the English death-rate at 11 age groups to the aggregate populations at the same age in the registration counties.) The reliability of the Registrar-General's statistics is, I believe, unquestionable. They deal with very large numbers, they are the subject of ever fuller inquiry and correction, and they have in previous decades been analysed and criticised by competent statisticians. Dr. Longstaff found that the change of incidence of phthisis was not due to the transference of deaths from phthisis into any other class. Dr. Tatham states that he has no doubt whatever that there has been a steady and substantial reduction from first to last from the year 1851 to the year 1895. When such investigators do not find evidence of change of certificates of death perhaps it is needless to point out that a disease of very slow course, very common occurrence, and easy of diagnosis if fully developed is less likely to be wrongly certified than most causes of death.

PAST AND PRESENT INCIDENCE.

Chart 1 expresses the changes which have occurred in either sex at each age group from the years 1861–70 to the years 1891–95 illustrating the declension of phthisis. It is very necessary in phthisis to mark the diversity of its incidence on age groups in detail. The curves enable you to see the mortality per 10,000 in either sex at each age group, the height of curve showing the incidence of mortality; the perpendiculars below simply measuring the amount of difference in the curves above at each age period, comparing the years 1891–95 with 1861–70, the latter being 100; and the dotted horizontal lines showing when the fall reaches one-quarter or one-half of the rate of mortality existing in the 1861–70 decennium. The greatest saving of life has occurred at those age-groups when phthisis is most prevalent; but when we note the amount of fall at each age group this is seen to be most striking at the earlier ages and to be common to either sex, both having fallen to one-half up to the age of 20 years; after 20 years of age and to the end of life there is gradually less and less lowering of the death-rate and it differs for either sex. In men it has reached the quarter line at the age of from 35 to 45 years; in women it is not until the age of 75 years and over that it only reaches the quarter line.

COMPARISON WITH INCIDENCE OF OTHER FORMS OF TUBERCULOUS DISEASE.

The form of the curves absolutely denotes a great difference in the age incidence of phthisis compared with that of other forms of tuberculous disease. The curve for other tuberculous diseases begins with a maximum in the first five years of life, showing a roll of death eight times as heavy as that told off to phthisis. The proportion continues to diminish until we approach old age, so that it is at once evident that it is not every kind of tuberculous infection which chiefly determines the onset of phthisis. Phthisis is no doubt, as Koch insisted, due to local infection of the lung. The difference in curve between

TABLE I.—*Showing the Declension in the Death-rate from Phthisis per 100,000 Living in England and Wales.*

Males.

Age in years	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and upwards.
1861–70	99	43	61	219	388	409	417	386	330	202	66
1891–95	46	19	26	107	202	254	326	320	268	157	56
Fall of rate to 1891–95, the rate of 1861–70 being taken as 100, that of 1891–95 equals...	47	44	41	47	51	61	77	83	78	76	85

Females.

1861–70	96	48	105	311	397	438	390	265	207	124	45
1891–95	42	26	56	142	174	215	230	174	129	80	35
Fall of rate to 1891–95, the rate of 1861–70 being taken as 100, that of 1891–95 equals...	44	54	53	45	43	49	59	61	62	64	78

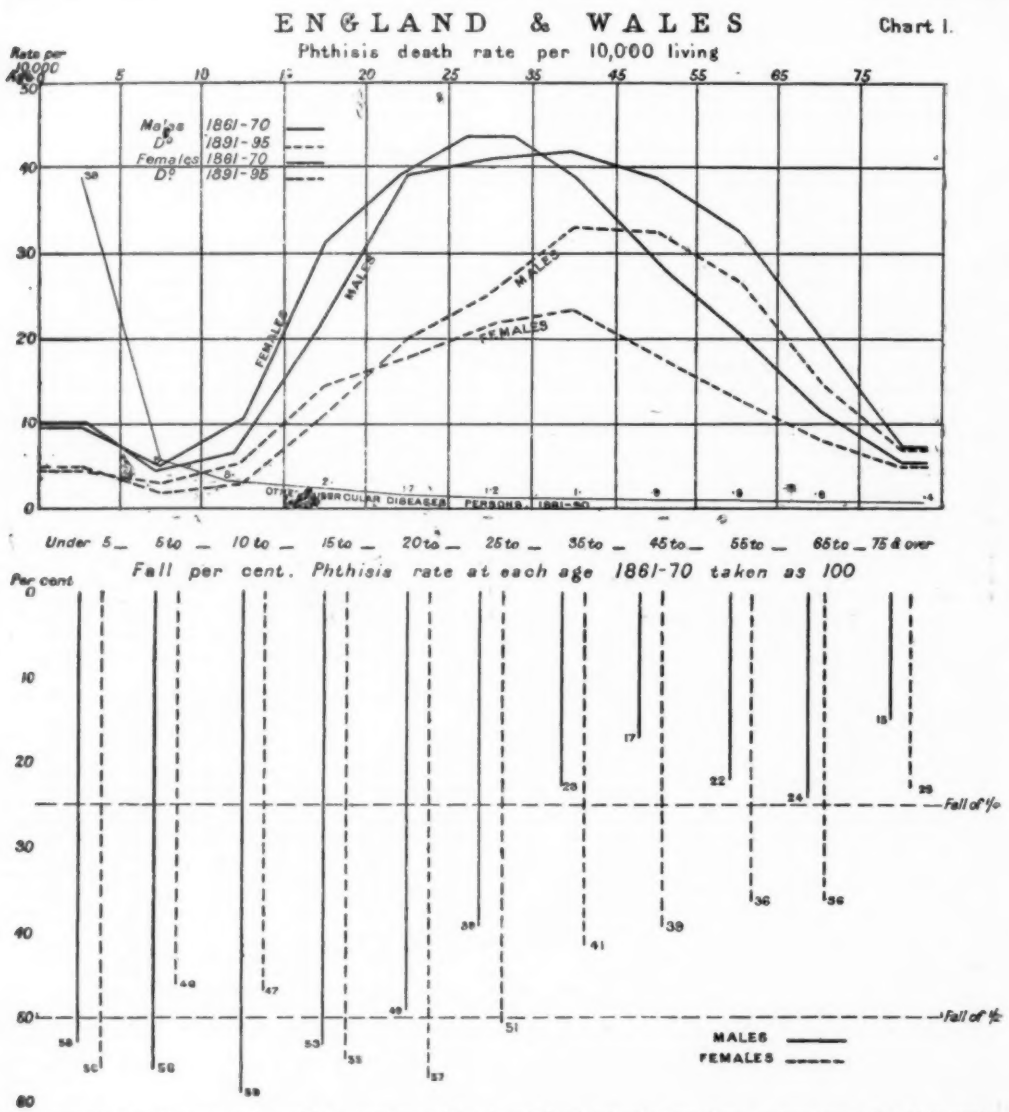
Proportion per Cent. of Deaths from Phthisis compared with Deaths from all Causes.

Males.

1861–70	1·35	5·2	13	35	46	41	31	20	10	3	0·4
1891–95	0·74	4·2	10	28	38	35	26	16	7	2	0·33
Fall in percentage of deaths due to phthisis from 1861–70 to 1891–95, 1861–70 being taken as 100 ...	54	80	76	72	82	84	83	80	70	66	82

Females.

1861–70	1·4	6·2	23	47	50	45	32	18	7·5	2·1	0·3
1891–95	0·8	5·7	20	35	35	32	22	11	4·3	1·2	0·2
Fall in percentage of deaths due to phthisis from 1861–70 to 1891–95, 1861–70 being taken as 100 ...	56	92	87	74	71	71	68	61	56	60	60


ENGLAND & WALES
Chart I.
Phthisis death rate per 10,000 living
Rate per 10,000 Ages
Males 1861-70
Do 1891-95
Females 1861-70
Do 1891-95
FEMALES
MALES
MALES
FEMALES
OTHER TUBERCULAR DISEASES PERSONS 1881-90
Under 5 — 5 to — 10 to — 15 to — 20 to — 25 to — 35 to — 45 to — 55 to — 65 to — 75 & over
Fall per cent. Phthisis rate at each age 1861-70 taken as 100
Per cent
Fall of ½
Fall of ½
MALES
FEMALES

other tuberculous diseases and phthisis confirms clinical experience that the common infection of the lymphatic glands in early life does not commonly lead to infection of the lung.

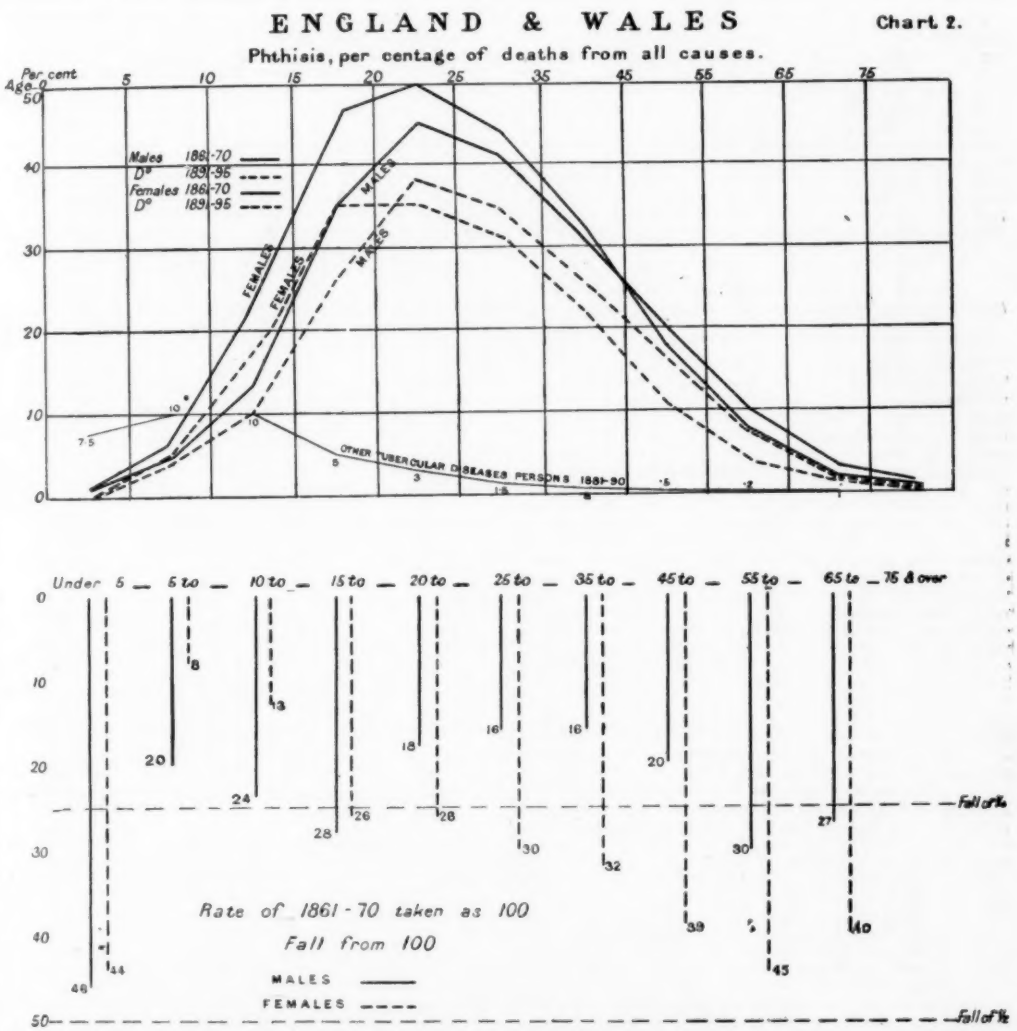
LUNG RESISTANCE ACCOUNTS FOR AGE AND SEX INCIDENCE.

It is the power of the lung to resist infection which determines the curve of the phthisis rate at early ages. The rate is comparatively insignificant when persons are more prone to nearly all the specific infective diseases and when the lungs are exposed to tuberculous infection as much as at any other age. The growing lung is able to resist infection; resistance of the growing lung effectively accounts also for the very regular difference in the sex incidence of phthisis up to the age of 20 years; in either of these decennia which we compare we find up to the age of 20 years a regular excess in the girls and young women. Constantly from 1860 to 1870 and since have the girls up to the age of 20 years exceeded the boys by 30 per cent. Physiologically speaking boys and girls are not properly comparable at the same ages. Mr. Charles Roberts says that "a woman's growth terminates two years earlier than a man's. From boyhood to manhood extends over three or four years, but girls develop into women in three or four months." I maintain this to be particularly true of lung development; the earlier and more rapid development of the lung is most conspicuous in girls. Growth in height is completed at the age of 15 years, while boys go on growing two or three years later (Table II.), and

TABLE II.—*Showing the Average Yearly Increase in Height in Centimetres.**

Age.	Girls.	Boys.	Age.	Girls.	Boys.
From 5 to 6 years	5·2	5·5	From 12 to 13 years	5·8	5·3
,, 6 ,, 7 ,,	5·5	5·1	,, 13 ,, 14 ,,	4·6	6·8
,, 7 ,, 8 ,,	5·3	5·1	,, 14 ,, 15 ,,	2·9	6·1
,, 8 ,, 9 ,,	4·5	4·9	,, 15 ,, 16 ,,	1·2	6·9
,, 9 ,, 10 ,,	5·0	5·1	,, 16 ,, 17 ,,	0·8	2·9
,, 10 ,, 11 ,,	5·3	4·1	,, 17 ,, 18 ,,	0·1	1·3
,, 11 ,, 12 ,,	6·2	4·6	—	—	—

* Professor Hartwell, based upon investigations of Professor Bowditch in regard to height of 24,595 children of schools of Boston.



when girls have attained full height unlike boys they have almost completed their lung development. Then it is the full-grown lung of the girl aged 15 years, having lost much of its powers of resistance against tubercle, that allows the death-rate from this cause at the age of 15 years in the girl to equal the rate at the age of 17 years in the boy, making the curve in women show the most rapid advance at the age from 15 to 20 years, while that for men cannot do so until the age of from 20 to 25 years.

DEATH TO DEATHS RATIO.

One may illustrate this propensity of the lung by another diagram showing the proportion of deaths from phthisis to deaths from all causes. This is information quite different from mortality per 1000 living and of value for phthisis. In the first place, it demonstrates that the declension of phthisis is greater than that of the general death-rate, the curves for 1890–95 being lower. In the second place, it shows that the fall in this proportion between mortality from phthisis and mortality from all causes is a less fall than we saw in the diagram of mortality from phthisis; there is less difference between the curves. Thirdly, it shows a fall more evenly affecting youth, adults, and old age.[1] Returning to the question of immunity of the growing lung, Chart 2 shows that the proportion of deaths in the first five years of life is but one-fourth or one-fifth of that of the second five years. The curves show also the difference of sex incidence up to the age of 20 years. Girls here show even a maximum at the age of from 15 to 20 years and boys not till the age of from 20 to 25 years. Both facts confirm remarkably my contention that it is the physiological age of the lung which causes immunity in childhood and the sex incidenee to the age of 20 years. It is not the indoor life of girls which is responsible for the latter, else overcrowding would affect girls particularly at this age, but effects of overcrowding will be shown to be not visible till a later age; and also country life should mitigate the excess, whereas the difference is most marked in the most rural districts.

As the decades of life pass by it is evident that the declension of phthisis is more marked in women than in men—being double. Sex alone will not account for the difference after the age of 20 years.

I propose to investigate the causes to which this sex difference and the declension of phthisis may be due. Phthisis requires a specific germ and a susceptible lung. The condition of the lung depends upon constitution and environment; as Dr. T. Glover Lyon briefly expresses it, there are three factors in phthisis—namely, infection, hereditary susceptibility, and acquired susceptibility.

[1] Where figures in Chart 2 and Table I. do not coincide the table is to be taken as correct.

INFECTION.

The declension of phthisis as expressed in these charts gives us no information as to infection and shows by age and sex incidence that it does not behave like other infective diseases. The diagrams declare that infection of the lung seizes the individual at very different ages from those in which death from tuberculous infection elsewhere is most prominent; they suggest the questions, Why is it that women who are often nursing the men after the age of 65 years have only one-half as much phthisis? and why has not a less declension been observed at those ages of school attendance when throat infections have been increasing? and they suggest the answer that infection is quite subsidiary to other influences which create susceptibility.

HEREDITARY SUSCEPTIBILITY.

Concerning hereditary susceptibility the diagrams only declare that the declension of phthisis is great in spite of it.

ACQUIRED SUSCEPTIBILITY—DISEASE AND OCCUPATION.

It is among the multitudinous factors of acquired susceptibility, especially at the earlier ages, that we naturally look to find the explanations for a fall in mortality, for they are the factors we know to fluctuate. In so wide a field our regard must be limited to a few well-known agencies—disease, occupation, food, air, and climate. First, taking disease at the age of from five to 25 years, one points to the difference of fall in the mortality diagram compared with the liability diagram. At the age of from five to 25 years phthisis mortality has fallen most—namely, one-half; it has hardly fallen a quarter in the proportion of deaths from phthisis to all deaths during that period of life; one infers that the fewer deaths from all causes in the years 1890–95 were accompanied by still fewer lungs which were susceptible to phthisis. The class of zymotic disease fell more than phthisis, resulting in the saving of three or four times as many lives; one may infer, according to Dr. Farr, that if so many deaths from zymotic disease have been prevented, twice as much continued illness ending in recovery has also been prevented; consequently I would point out that the difference in fall at the age of from five to 25 years in these two diagrams is probably to be accounted for to a large extent by the absence of the damaged lungs among weak convalescents, such being met with now but half as often as they were met with in the decade 1861–70. From 25 to 65 years of age we have seen that the declension of phthisis in men is about half that in women; as age increases after 65 years there is a lesser fall in mortality. One might expect to see the proportion of deaths from phthisis at this age correspondingly larger, but the liability of both sexes to die from this cause is, notwithstanding, less than formerly. The fall in phthisis mortality is less probably because of the existence of causes which induce a greater liability to all kinds of death at those age periods which we note have a higher all cause death-rate than was formerly the case.

The difference in sex incidence at these ages is due to a susceptibility of the lung to acquire disease in the man—it is not peculiar to phthisis. Dr. Longstaff showed that in this country in the decade 1871–80 males died more than females from pneumonia, especially between the ages of 35 and 65 years, when the proportion was two to one. The reason why the men have not improved as have the women may be due to occupational agencies with the increasing proportion of male adults who undertake indoor employment conducive to lung disease, while women are more out of doors and with much less sedentary work than used to be the case, owing especially to the invention of the sewing machine. The diagram tells us that it is not the environment of occupation alone acting on the lung which accounts for the difference between men and women, for this difference is more noticeable after the age of 65 years.

It may be remarked that, besides men being particularly exposed to sources of lung damage during their age of occupation which may conduce to disease in later life, after 65 years of age they suffer twice as much as women from Bright's disease as well as from phthisis. But food agency may be more worthy your attention here, for when old and out of work men are worse off than women in most parts of the country. All through life the declension of phthisis has been promoted by improved nutrition of the lung which may have been as influential in mitigating the disease as the agencies of better health and more sanitary occupational surroundings.

FOOD-SUPPLY.

The British public eat more and more. Agricultural returns declare that in the last 20 years the yearly ration per head of the public has increased 10 per cent. in both bread and meat. The poorer classes have no doubt obtained a still greater benefit, the wealthier previously enjoying all the meat and bread they required. This country took the lead in perhaps the first great step to the successful treatment of phthisis by introducing a special agent of nutrition, cod-liver oil. Nowadays patients under Dr. Wahlters' care at Nordrach rightly hold that their extra feeding is a great means of cure; nutrition is equally a means of prevention.

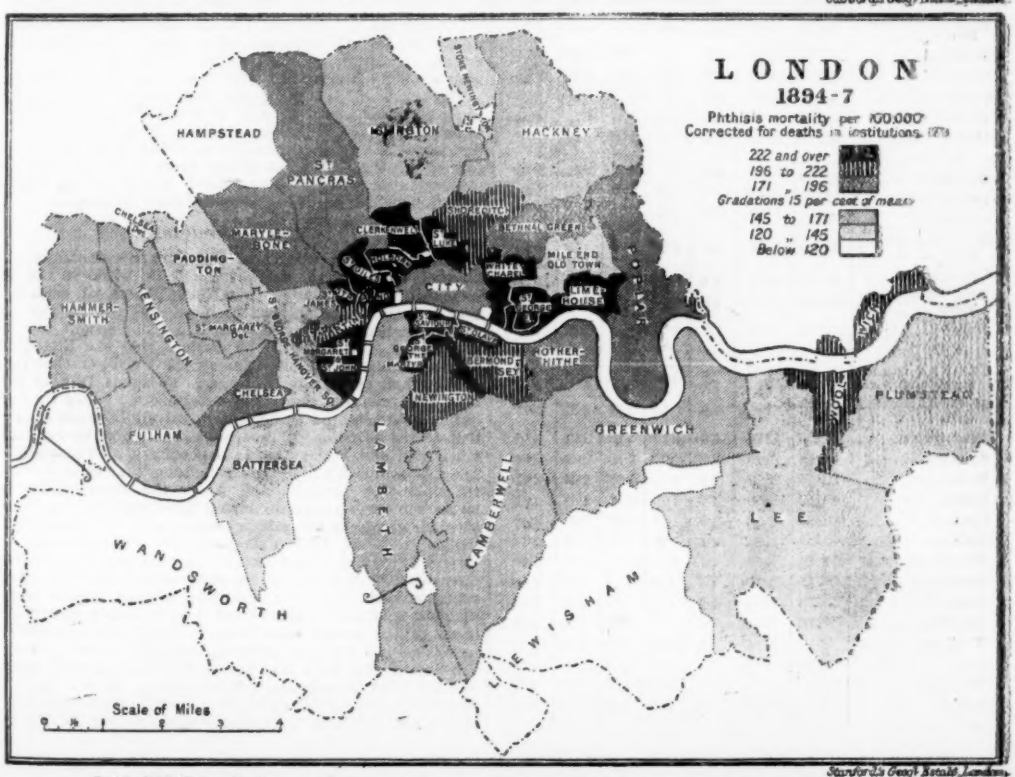
England, I believe, is in the van of all countries in respect to its fall in the phthisis rate and no small share of this is due to its prosperity supplying more food and better food for all labourers and their families. In Table III., showing the phthisis death-rate, are placed three columns giving particulars regarding corn prices, pauperism, and wage-earning, three commanding factors in the prosperity of the public. It is interesting to see a coincidence and a remarkable agreement between the fall in the phthisis-rate, the fall in the price of corn, the fall in the number of paupers, and the rise in the average wage (I may say that Mr. Bowley, by taking the ratio of the rise of wages from time to time in the largest groups of wage-earners, such as iron-workers and agricultural labourers, estimated the increase of wage; and when he also took into account the fall of prices he estimated that on an average from 1860 to 1895 the wage-earner's real income had doubled).

TABLE III.—*Showing the Phthisis Death-rate per 100,000 Living in England, the Price of Corn, the Amount of Poor-law Relief, and the Average Wage.*

Date.	Persons (all ages).	0 to 20.	20 to 65.	65 and over.	Price of half-quarter of wheat.	Poor-law relief per 500 living.	Average wage (Bowley).†
1861–65 ...	252	M. 101 F. 131 * 130	394 366 93	164 100 67	24*s.*	22	100 (1860)
1866–70 ...	244				27*s.*	21	113 (1866)
1871–75 ...	221	—	—	—	27*s.*	17	113 (1870)
1876–80 ...	203	M. 76 F. 100 * 132	352 289 82	156 88 56	24*s.*	14	132 (1877)
1881–85 ...	183	M. 57 F. 79 * 138	309 241 78	141 70 49	20*s.*	13	124 (1883)
1886–90 ...	163				16*s.*	12	125 (1886)
1891–95 ...	146	M. 48 F. 64 * 133	261 194 74	129 67 52	14*s.*	11	140 (1891)

* Figure representing the female death-rate, the male death-rate being taken as 100. † 1860 wage taken as 100.

The increment of nutrition might be expected to influence the ages of youth and adolescence more than later ages; the greater fall in the phthisis-rate during the first 25 years of life may be evidence of this. Local evidence to the same effect will be referred to later. If a more liberal diet is responsible for much of the declension the wealthier classes should have contributed a smaller share; the very few records which can be tested seem to be confirmatory. Five septennial reports of the Scottish Widows' Fund (1000 deaths from phthisis) show the same percentage of deaths on the number of lives at risk since 1860 until the last report where advance is visible. Since 1871 the legal and medical professions show little diminution in the death-rate between the ages of 25 and 45 years. Dr. Ogle's valuable paper on Mortality in the Medical Profession 1873 to 1882 shows that the proportion which deaths from phthisis bore to deaths from all causes was at each age the same nearly as in 1890–92. It is difficult to compare the age distribution of the profession at these periods. As far as I can trace, the well-to-do classes have always suffered much less from phthisis and have not gained a proportionate declension. Neither the Registry Office at Somerset House nor that at Dublin can provide data to further test the truth.



In the 1894-97 map Hackney and Stoke Newington are mapped a shade too dark; Mile End Old Town a shade too light.

VENTILATION.

The health of the lung depends upon the air it inspires as well as upon its nutrition. "Air sewage," as Dr. Ransome terms it, is a potent factor in acquired susceptibility, though not one the prevalence of which among the public can be readily measured and set down in black and white. From 1871 to 1891 no material change took place in the allowance of house room per head of the population; great advances have been made in the ventilation of factories, especially of textile industries, owing to legislation in the past. I consider that there has been some improvement among the poorer people in habits of ventilation, but it is by no means general and on all sides one hears how deep the public ignorance is or their negligence in this respect.

TABLE IV.—*Showing the Phthisis Death-rate per 1000 in London in the Years 1894-97, Corrected for Deaths in Institutions.*

—	Population. Census, 1896.	Per'ntage of population overcrow'd. Census, 1891.	1894.	1895.	1896.	1897.	1894-97.
WEST:—							
Paddington... ...	124,506	16·81	1·3	1·32	1·27	1·13	1·25
Kensington... ...	170,465	17·26	1·5	1·49	1·42	1·44	1·46
Hammersmith ...	104,199	13·44	1·5	1·56	1·40	1·38	1·46
Fulham	113,781	14·49	1·4	1·40	1·66	1·54	1·50
Chelsea...	96,646	18·58	1·6	1·92	1·82	1·81	1·78
St. George, Hanover-square ...	79,967	11·11	1·3	1·32	1·28	1·16	1·26
Westminster ...	53,234	20·85	2·5	2·32	2·24	2·70	2·44
St. James	23,050	23·78	2·0	1·50	1·89	2·27	1·91
NORTH:—							
Marylebone... ...	141,188	26·78	2·0	2·12	1·96	1·75	1·96
Hampstead	75,449	10·32	0·9	1·01	1·12	0·74	0·94
St. Pancras	240,764	27·62	1·9	1·79	1·93	2·01	1·90
Islington	336,764	20·25	1·5	1·60	1·45	1·44	1·49
Stoke Newington	33,485	10·83	1·2	1·12	0·82	1·17	1·07
Hackney	213,044	10·83	1·4	1·49	1·41	1·43	1·43
CENTRAL:—							
St. Giles	32,237	29·80	3·1	3·31	2·91	2·99	3·07
St. Martin-in-the-Fields	13,077	19·82	2·5	1·81	1·97	2·60	2·22
Strand	23,782	30·95	3·2	3·16	2·89	3·36	3·15
Holborn	31,208	38·08	2·4	3·13	3·24	2·76	2·88
Clerkenwell... ...	66,202	38·78	2·3	2·41	2·16	2·35	2·30
St. Luke	41,527	44·24	2·6	2·72	2·92	3·11	2·88
London, City of...	30,970	19·18	2·0	1·56	1·60	1·89	1·76
EAST:—							
Shoreditch	122,348	33·68	2·2	2·31	1·87	2·03	2·10
Bethnal Green ...	129,162	34·23	1·8	1·90	1·80	1·98	1·87
Whitechapel ...	77,717	43·50	2·6	2·81	2·40	2·52	2·58
St. George-in-the-East	47,506	39·83	2·3	2·40	2·56	2·76	2·50
Limehouse	58,305	25·76	2·4	2·34	2·24	2·56	2·38
Mile End Old Town	111,060	22·00	1·8	1·65	1·38	1·40	1·55
Poplar	169,267	17·83	1·7	1·62	1·75	1·88	1·73
SOUTH:—							
St. Saviour, Southwark ...	25,365	32·37	2·9	3·28	3·11	3·22	3·12
St. George Southwark	60,278	33·59	2·8	3·10	2·69	2·52	2·77
Newington	120,939	22·26	2·0	2·20	1·99	2·21	2·10
St. Olave	11,731	29·10	2·5	2·70	2·19	2·88	2·56
Bermondsey ...	85,475	23·30	2·2	2·23	2·03	2·04	2·12
Rotherhithe ...	40,379	18·00	1·6	1·90	2·19	1·58	1·81
Lambeth	295,033	15·87	1·6	1·76	1·63	1·67	1·66
Battersea	165,115	14·20	1·4	1·52	1·44	1·49	1·46
Wandsworth ...	187,364	5·57	1·1	1·17	0·97	1·14	1·09
Camberwell... ...	253,076	11·10	1·4	1·58	1·54	1·50	1·50
Greenwich	175,774	11·17	1·4	1·54	1·57	1·48	1·49
Lewisham	104,521	3·59	1·1	0·87	1·01	0·90	0·97
Woolwich	41,314	14·45	1·9	2·24	2·09	1·91	2·03
Lee...	38,588	6·43	1·1	1·47	1·27	1·19	1·25
Plumstead	59,252	6·43	1·1	1·55	1·35	1·56	1·39
London...	—	19·70	1·7	1·77	1·68	1·71	1·71

LONDON PHTHISIS AND OVERCROWDING.

The best instance of the influence of ventilation which I can provide is that given in the report of the medical officer of health of the London County Council. The mortality figures taken for the districts of London for the past four years have been corrected by the Registrar-General allocating the deaths in public institutions to their proper areas, so this is the first time that such reliable evidence has been obtainable. The map of overcrowding is taken from the last census figures which tell what proportion of the population live more than two in a room, in tenements of one, two, three, or four rooms. Mr. Shirley Murphy, in his report to the London County Council, has shown the remarkable coincidence of increase of phthisis with overcrowding and has further provided me with figures which enable you to see that this overcrowding produces its effects in a small degree only upon growing lungs. Its effects are marked at an age when phthisis is usually at a maximum but still more are they marked as age advances (Table V.). It continues to exhibit its influence up to the age of 65 years, and it appears that where overcrowding is most intense in London men from 65 to 75 years of age die as frequently from phthisis as the males of all England do when their mortality is highest from this cause.

In the face of overcrowding the declension of phthisis cannot proceed; it is this cause probably which accounts for London not improving so much as the whole country. Some of its worst districts in this respect (the Strand and St. Giles) seem not to have improved at all. Nevertheless, overcrowding is not solely a question of air; it also spells poverty; and some of the instances where these two maps of London do not quite coincide are to be accounted for by the presence of numerous poor occupants of common lodging-houses who, I gather from the information supplied by the medical officers of health of the Strand, Westminster, and Whitechapel, die about twice as frequently from phthisis as all the occupied males of London; and there are other instances where a large amount of pauperism accounts for the increase of phthisis being more marked than that of overcrowding.

CLIMATE.

Climate has not changed but the clothing which defends us against its evil influence has changed. In children and women a larger surface of the body is covered and with woollen materials, a much more protective covering.

The causes of declension are also determining factors in the production of a variation in mortality from phthisis in separate localities at the same period. By comparing the age incidence of different districts a better estimate can be formed of the influences which promote or prevent the declension of phthisis than if it is sought in the slighter variations which occur in the rate of their declension.

RURAL DISTRICTS.

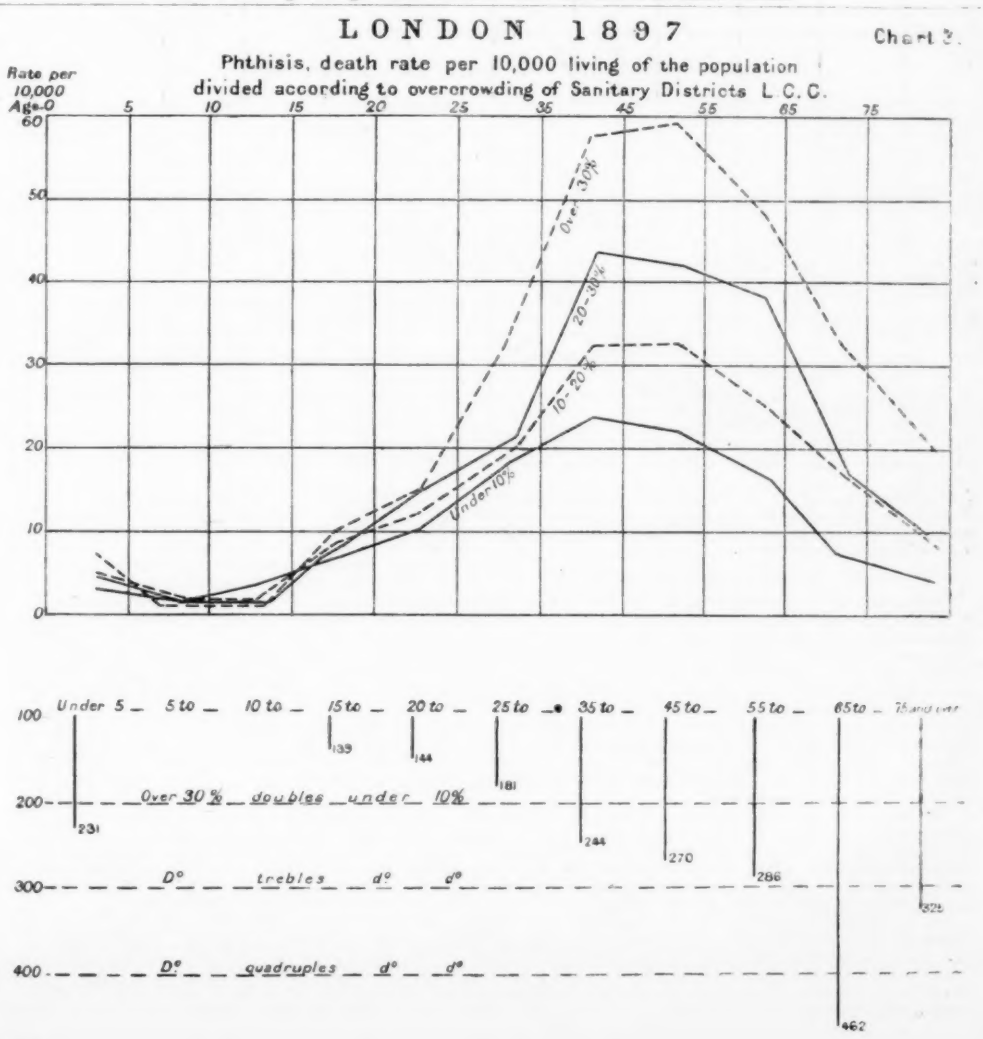
First inspecting two rural districts, Herefordshire and North Wales, a great similarity may be noted in the age incidence of their curve, but North Wales, at each age, very greatly exceeds Herefordshire. Of the factors previously named but few can be found to account for this difference. It can hardly be claimed that the Eisteddfod causes much more infection among the Welsh, or that heredity by their closer intermarriage is an agent, because they have declined more than their neighbours. When we turn, however, to acquired susceptibility all my informants agree that in the nutrition of the people, though it be no doubt much improved, Wales stands in a peculiarly adverse position. There is a difficulty in obtaining butcher's meat in the most out-of-the-way districts, and where the communities are larger the custom prevails among those hard-working people of a bread-and-butter midday meal, with jorums of well-stewed tea. In 1896 a Departmental Committee on the Quarries reported to Parliament that "the men take too little nitrogenous food and drink too much stewed tea." The same committee said that "the cold damp climate was an important factor in causing diseases of the respiratory system and many of the houses were damp." Pneumonia is prevalent in Wales but zymotic diseases, occupation, and probably ventilation (they have always regarded fresh air as an enemy and are most tenacious of habits) cannot be said to differ very much in these two districts. Accordingly we are driven to the conclusion that the stamina of the lung is impaired

TABLE V.—*Showing the Deaths from Phthisis in Groups of Sanitary Districts of London arranged with Respect to Overcrowding of their Population.*

Phthisis Deaths, 1897.

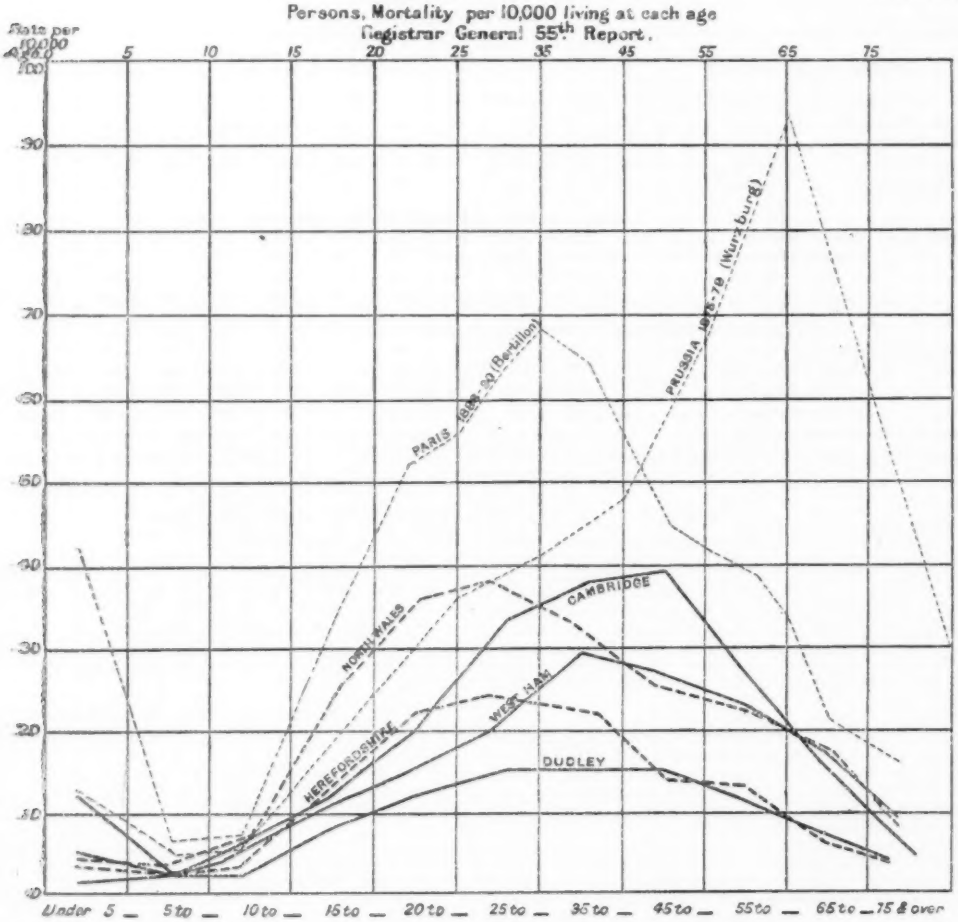
Districts with overcrowding.*	All ages.	0-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75 and upwards.
Under 10 per cent.	468	15	6	14	29	43	122	115	76	36	9	3
From 10 to 20 per cent.	3360	137	47	45	185	279	791	850	607	291	108	20
,, 20 ,, 30 ,, ,, ...	2321	69	24	20	99	199	454	671	462	253	58	12
Over 30 per cent.	1543	60	10	11	60	94	336	439	315	153	56	10
Phthisis Death-rates per 1000 Living, 1897.												
Districts with under 10 per cent.	0·32	0·14	0·34	0·69	1·07	1·82	2·36	2·19	1·68	0·71	0·60	
,, ,, from 10 to 20 per cent.	0·52	0·20	0·20	0·84	1·23	2·08	3·10	3·12	2·51	1·63	0·81	
,, ,, ,, 20 ,, 30 per cent.	0·48	0·19	0·17	0·83	1·55	2·13	4·36	4·21	3·81	1·64	0·96	
,, ,, over 30 per cent.	0·74	0·14	0·17	0·98	1·54	3·30	5·76	5·91	4·80	3·28	1·95	
Phthisis, Comparative Death-rates. Death-rates in least Overcrowded Group at each Age taken as 100.												
Districts with under 10 per cent.	100	100	100	100	100	100	100	100	100	100	100	
,, ,, from 10 to 20 per cent.	162	143	59	122	115	114	131	142	149	230	135	
,, ,, ,, 20 ,, 30 per cent.	150	136	50	120	145	117	185	192	227	231	158	
,, ,, over 30 per cent.	231	100	50	139	144	181	244	270	286	462	325	

* "Overcrowding"—living more than two in a room in tenements of less than five rooms.



PHTHISIS 1881-90. Chart 4.

Persons, Mortality per 10,000 living at each age
Registrar General 55th Report.



say malnutrition and further damaged by climatic influence. This prepares the soil for the seeds of tuberculosis to such an extent that the phthisis rate of Wales continues nearly to double that of Herefordshire.

RURAL COUNTIES COMPARED TO TOWNS.

Taking the age curve of either district and comparing it with the samples of the English towns Dudley and West Ham, two features distinguish urban from rural populations—the maximum is at a later age and the rate is comparatively high in old age. Cambridge, by its rural attributes, presents little of this urban feature. These samples are but instances of a rule which seems to hold good for the rural counties and the towns of England. The explanation seems largely to lie in a remark of the experienced Mr. Booth, who writes: "Life for old people is easier in the country, rents are lower, continued earnings more possible, friendly assistance in case of need more sure."

We must not, however, neglect another agent perhaps of equal influence—overcrowding; in the towns it is half as prevalent again as it is in the country, and Chart 3 shows that an increasing effect is produced as age advances, accounting for the maximum appearing at a later age period in the towns and for the prevalence in old age.

On proceeding to compare these three towns, Dudley, West Ham, and Cambridge, their curves form no doubt a good illustration of how different occupations and surroundings affect the mortality from phthisis; for all that, the intricacies of the subject defy full investigation. All of these towns have made much progress since the period 1861 to 1870. Dudley then suffered much as West Ham did in the period 1881 to 1890. West Ham stood where Cambridge stands and Cambridge was almost in the position Paris is depicted in.

West Ham is an instance of a densely populated and thriving town whose inhabitants are occupied as much indoors as out, the male rate considerably exceeding the female rate. Here zymotic disease is prevalent and overcrowding is moderate, yet it is below the phthisis rate for England and Wales. Its good health is somewhat exaggerated, those of its inhabitants dying in London institutions not being included: in the past three years it would represent an addition of 10 per cent.

Cambridge may be taken as an example of old residential towns; neither the presence of undergraduates nor of a county hospital determines the curve of incidence drawn. Cambridge exhibits (among its men especially) a phthisis rate exceeding such towns as West Ham, for which I can find no further reasons than such as were noted when comparing North Wales with Herefordshire—namely, a lower standard of nutrition (implied by lower wages and higher priced food) and damp. Zymotic disease, unhealthy occupations, diseases of the respiratory system, and overcrowding do not seem to be attributes of this town.

Dudley enjoys a comparative immunity from phthisis which one was at first sight inclined to attribute to the smoke of the Black Country, from the heart of which it rises, built on the top of a long slope of hill with a good fall on nearly every side. It has many attributes—slums, overcrowding, abundant zymotic disease, and exceptional

prevalence of respiratory disease—all of which may dispose to phthisis. Though not engaged in textile industry women suffer more than men whose occupation, largely in collieries, exercises a good influence, the origin of which has not yet been fully determined. The situation of Dudley by its airiness, elevation, and dryness of soil, the nutrition of its inhabitants by their very high wages and decidedly meat-eating propensities mark alone conditions which should place the town above many. While from a distance it seems to be covered by a pall of smoke, Dr. T. F. Higgs notes that gases are quickly driven away. SO_2, the agent which the late Dr. Andrew considered conferred some immunity on Röros, is not more prevalent according to Mr. H. D'A. Ellis and other informants than in other large towns. Dr. C. A. MacMunn, while calling attention to the great production of phenols and gases from the furnaces, does not suggest that the heavy gases are permeating the atmosphere. However, seeing how low the rate is on either side of the age of occupation some exceptional influences are probably at work.

PARIS AND PRUSSIA.

Paris and Prussia are a contrast to what usually obtains in this country. Paris, while equalling in adults the Cambridge mortality of 30 years ago, is conspicuously different from Cambridge at that time in the heavier incidence on youths to age 20. I understand that this heavy mortality without declension has been the fate of Paris for 30 years. The early age incidence and the absence of declension are alike due in my opinion to the vegetable diet and to those economical conditions which have allowed the Paris *ouvrier* to advance so little compared with the British workman. It is true that the Office of Works of French Industry shows that the rise of wages in Paris has been no less than in England, but it also tells that the present wage is 10 per cent. less and the cost of living, according to M. Bienaymé, has since 1860 increased 10 per cent. We know the enormous decrease in the cost of living here.

As to Prussia I have made no inquiry; the curve forcibly suggests by its resemblance to that of the most overcrowded districts of London that it has its explanation in the same cause, faulty ventilation. The only rate in England which I have seen to exceed this is found among the tin and lead miners, in whom the rate is nearly double that of Prussia between the ages of 55 and 65 years and after 65 years, judging, however, from small figures, only 80 deaths from phthisis. Damp, malnutrition, and exposure affect these men, but it is doubtless the stagnancy of the mine atmosphere (styled with a fine unconscious irony "natural ventilation") that induces this enormous mortality late in life.

Sir Hermann Weber, in the Croonian Lectures, said of these Prussian figures: "Part of the difference (from other countries) may be accounted for by the fact that during the much colder winters in Prussia old people are more confined to narrow, ill-ventilated, stove-heated rooms than is the case in England, where the cold is never great and where open fireplaces do not allow the air to be vitiated to the same degree."

Despite the great declension of phthisis all over England different districts like those already mentioned still exhibit much evidence of difference in susceptibility. It seems not too much to say that nothing more haphazard is seen than in non-infective diseases—fortuitous increase of mortality is not apparent; when death returns and local agencies inducing susceptibility are considered together they confirm the common opinion: avoiding susceptibility one avoids infection.

COUNTIES OF ENGLAND.

A general observation of available data in the counties of England tells the same tale of a mortality rising as visible agents of susceptibility preponderate.

The Registrar-General has afforded the best opportunity of comparison in counties, having corrected the death-rate and the phthisis rate in the past decennium for age and sex distribution of their populations. The advantage of comparing larger numbers of population outweighs any disadvantage in comparing areas which by their size lose some distinctness in local characters; these local attributes will still be found to be sufficiently distinct.

Before briefly comparing the mortality from phthisis in the counties of England it is well to consider, first, the general equality of incidence of that mortality; secondly, how far migration has effect upon the death returns; and, further, what kind of additional information is afforded by taking into account the concurrent mortality from all causes.

EQUAL INCIDENCE.

Attention has repeatedly been called to the inequalities of the phthisis rate in different sanitary areas. Attention may equally be given to the remarkable evenness of rates in the counties of England—I have found it necessary to use gradations of only 7½ per cent. to map them—and, further, that evenness extends to the sanitary areas. The rate is so steady that small areas having only from 100 to 200 deaths in a decennium will show but very little variation in rate throughout their county. Suburban counties are often an exception to this rule; Essex beyond the suburban district is as bad as Suffolk, and Kent and Surrey are very variable; but even here nothing like the incidence of London appears, where the Strand and St. Giles triple the rate for Lewisham and Hampstead. London stands almost alone in its tremendous contrasts. Except in those areas where differences in occupations and prosperity are nearly as vast as in London, instances of phthisis rate for one sex only being doubled can with difficulty be found when we compare one sanitary area with another in the same county.

Men vary more than women in their mortality from phthisis and in their occupation, so men by their indoor occupation in towns of some rural counties are found to have double the phthisis rate of the area which has the lowest rate in the county. Such towns are Canterbury, Chichester, Oxford, Cambridge, Exeter, Bristol, Worcester, Coventry, Leicester, Nottingham, Redruth, and Biggleswade. Occupational influence in northern counties can often provide several instances.

On the other hand, no such instance is to be found in Norfolk, Essex, Bucks, Hertfordshire, Wilts, Somerset, Dorset, Hereford, Shropshire, Lincolnshire, and Northamptonshire, while Surrey, Berkshire, Suffolk, and Cumberland are probably in the same category.

Towns are not infrequently among the least affected districts in a county; such towns are usually well-to-do and often new, as those within London influence—West Ham, Romford, Richmond, Croydon, and Watford; also the growing towns—Eastbourne, Reading, and Lowestoft. In manufacturing towns this exceptionally good position is rare; Dudley and Pontypridd with their coal-mining and smelting of iron may be noted.

That a specific and contagious disease should be so stable in its incidence and so independent of density of population is remarkable. This aspect of phthisis harmonises with that straightness of the curve year after year in England which was commented upon by Dr. Longstaff who in this respect compared it to cancer, apoplexy, paralysis, and convulsions.

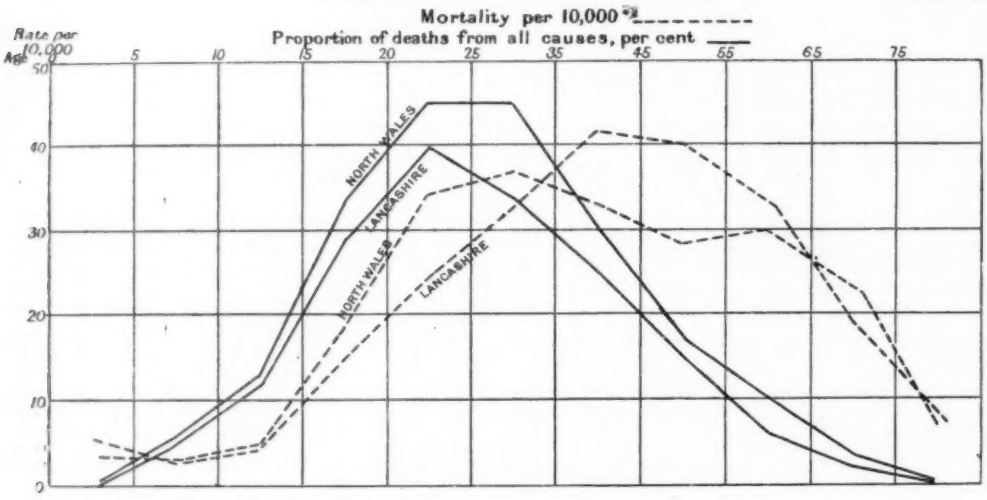
MIGRATION.

The question of the influence of migration upon the death returns is not unimportant. Is it true that migration (people returning home or seeking the country to die) accounts for the healthiness of towns? in other words, are rural districts not responsible for their phthisis rate? Inquiring first of medical officers of health of district areas, West Ham sends a large number of its patients to the neighbouring London hospitals; its artisan inhabitants cannot afford to send many away to a distance. Dr. Sanders states that in the past three years there has been referred to his district a number of deaths from phthisis occurring in London institutions which amount to 10 per cent. of those occurring in the district. It is not, then, migration which has been responsible for the low phthisis rate of West Ham. In Norfolk two rural districts have recently had every death from phthisis in the past 20 years surveyed, Dr. Plowright investigating the Freebridge Lynn district, a population of about 12,000, and Mr. T. L. Lack the village of Hingham. They found that 10 per cent. were imported cases, several being from other parts of the county and several from the army; no record of any cases leaving the district and dying elsewhere could be given. If their few figures, relating to in all about 300 deaths from phthisis, are, as I believe, a fair sample of the experience of rural districts the rural incidence cannot be said to be masked by migration.

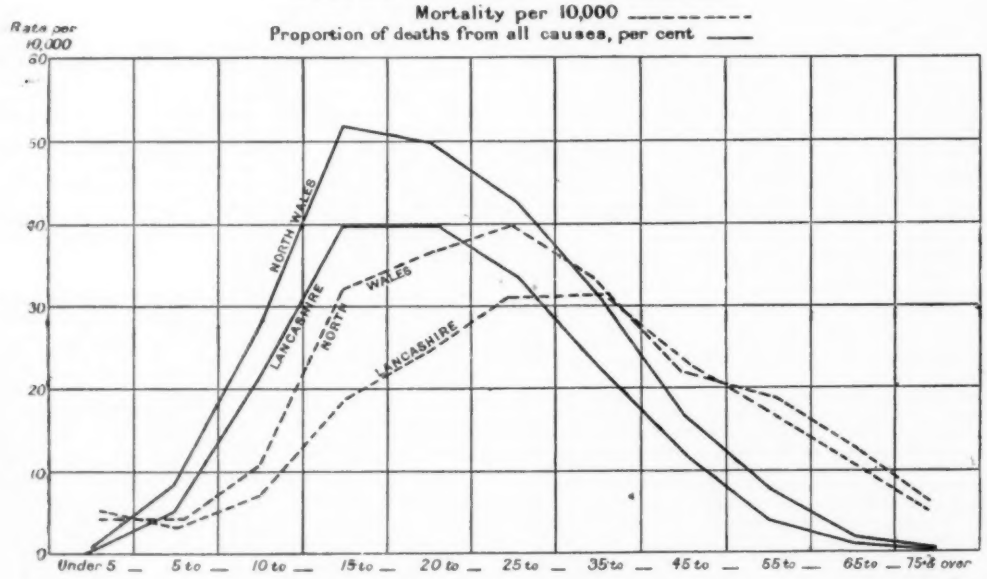
Seeking evidence, secondly, from age incidence in the counties, at the ages of 10 to 20 years emigrants from the towns are few (they were less than 4 per cent. in the Norfolk data); yet on taking the phthisis rate of London and the four surrounding populous counties at this age of less migration and again the rate of the age groups from 20 to 35 years when emigrants are more numerous it is evidently in either case a lower rate than that for England, as has been

PHTHISIS, 1881-90. MALES

Chart 5.



PHTHISIS, 1881-90. FEMALES



noted by Dr. Niven. Conversely in rural counties the rate is, as a rule, equal to, or higher than, the rate for London and suburban counties at age 10 to 20, as well as for the ages 20 to 35. Finally, if the county of least immigration—Cornwall—is analysed the rate is no lower than in other rural counties and it is higher than in London. Figures are appended giving age group rates; they show that in early life rural districts have higher rates, for girls particularly.

From all these data I conclude that rural counties have no such increase by immigration at any age as to mask the phthisis that originates in the county and that the figures of the Registrar-General's returns truly tell the county phthisis rates. I am satisfied that in these maps a county would rarely if ever have to change a grade on that account.

If one attempted to correct the map of phthisis mortality further than for age and sex there are only two or three instances in which the evidence appears to make it desirable. Surrey might claim that it had an unfair share of asylums which add to the rate as much as a hospital for consumption; Hampshire that it held military and naval hospitals with many deaths from phthisis, and in the latter county the medical men at Bournemouth would doubtless protest that their patients came there too late.

PROPORTION OF DEATHS FROM PHTHISIS.

In explanation of Map E giving the proportion of deaths from phthisis to all deaths for the counties Chart 2 may be referred to which expressed this liability to die from phthisis for every age group of England and Wales. The map expresses it for each county by combining all the age groups into an all age proportion rate. This combination can as reasonably be made as in the case of mortality per

1000 living or even more so, because the character of the curve of ratio of deaths from phthisis to all deaths runs more consistently through all age groups than does the curve for mortality. If one age group is above or below the mean for England and Wales almost all are, while the curve mortality per 1000 living shows much less consistency. Figures are appended (Appendix II.) giving the ratio at ages from 25 to 35 years for all the counties. They have just the same local relations as when taken for all ages, except in a few cases where the incidence is exceptionally heavy in later life. Chart 5 gives an example of the consistency of the curve for either sex, comparing North Wales with Lancashire.

mark this coincidence by the rate of death proportion showing a greater number bordering upon the mean than the rate of mortality per 1000 living. The death ratio map then eliminates much of widespread evil influences, as overcrowding in towns, which Mr. Shirley Murphy showed predisposed to many causes of death, increasing the death-rate for such districts in London by one-half, while it doubled the phthisis rate. Good influences are similarly in part eliminated, especially those attributes which give rural districts such a low mortality. Clearer indications remain as to the influence of locality upon liability to phthisis by thus discounting the healthiness or unhealthiness of counties as shown by the total death-rate.

TABLE VI.—*Showing the Comparative Mortality of Males from 25 to 65 Years of Age (1890-92) from all Causes and from Phthisis, corrected for Age Constitution in the Four Decennia for 61,215 Men engaged in each Occupation. (Part II., Supplement, 55th Report of the Registrar-General.)*

—	All causes.	Phthisis.	Phthisis (occupied males taken as 100).	—	All causes.	Phthisis.	Phthisis (occupied males taken as 100).	Occupations placed in order of the proportion per cent. phthisis deaths bear to deaths from all causes.	
Messenger	1222	325	175	Costermonger (224)	1652	443	239	Tobacconist	28
Gunsmith	1228	324	175	Docker	1829	325	175	Tailor	27
Hatter	1109	301	160	Innkeeper (139)	1642	259	169	Costermonger	26
Hairdresser	1099	276	149	Tobacconist	1002	280	151	—	—
Draper (136)	1014	260	140	Law clerk	1070	272	147	—	
Shoemaker (119)	920	256	133	Tailor (134)	989	271	146	—	
Saddler	924	248	133	Chimney sweep	1311	260	140	—	—
Watchmaker	936	234	130	Cab service	1153	229	123	Law clerk	25
Bricklayer	1001	225	121	Seaman	1352	228	123	Domestic servant	24
Locksmith	925	223	120	Commercial clerk	915	218	117	Railway clerk	24
—	—	—	—	Coalheaver	1526	215	116	Commercial clerk	23
Wool manufacturer	991	191	103	Carman	1284	195	105	Carpenter	22
Coachmaker	1040	189	102	Railway office clerk	781	194	104	Cab service	20
Baker	920	185	100	Domestic servant	757	186	100	Chimney-sweep	20
—	—	—	—	—	—	—	—	Grocer	19
Occupied males	*953*	*185*	*100*	*Occupied males*	*953*	*185*	*100*	*Occupied males*	*19·4*
Chemist	926	180	97	Carpenter (98)	783	172	93	Agricultural labourer	18
Fishmonger	983	160	86	Milkseller	1061	166	90	Railway guard	18
Blacksmith (102)	914	159	86	Manufacturing chemist	1392	162	87	Docker	17
—	—	—	—	—	—	—	—	Seaman	16
—	—	—	—	—	—	—	—	Innkeeper	15
Greengrocer	946	154	83	Railway guard, porter, &c.	825	147	79	Milkseller	15
Corn miller	845	143	77	Grocer (78)	664	131	70	Carman	15
Platelayer	1055	129	70	Agricultural labourer (57)	632	115	62	Coalheaver	14
—	—	—	—	—	—	—	—	Farmer	14
Tanner	756	115	62	Farmer	563	79	42	Clergyman	12
Coal merchant	803	95	51	Engine-driver on railway	810	76	41	Manufacturing chemist	11
Brickmaker	741	84	45	Clergyman	533	67	36	Engine-driver on railway	9

A table of occupations draws this same comparison among classes of men at those ages during which phthisis is twice as prevalent as it is during the whole of life. You may judge whether the liability to phthisis is best expressed—first, by comparing their mortality in the middle column; secondly, by comparing the frequency with which they die from this disease in proportion to all other forms of death in the last column.

The docker and the innkeeper have a very high mortality from phthisis but not higher than that from many other diseases. Their liability to die from phthisis is but a part of their liability to all kinds of death; a fuller judgment of liability to phthisis is afforded by taking into view their low proportion of deaths from this cause as shown in the last column. The last column, on the other hand, shows that such indoor workers as grocers, carpenters, and domestic servants, though with a low rate in the mortality column, possess a proclivity above the average to this kind of death. (In the table deaths from accidents have not been eliminated; such amendment would not alter the order set down.)

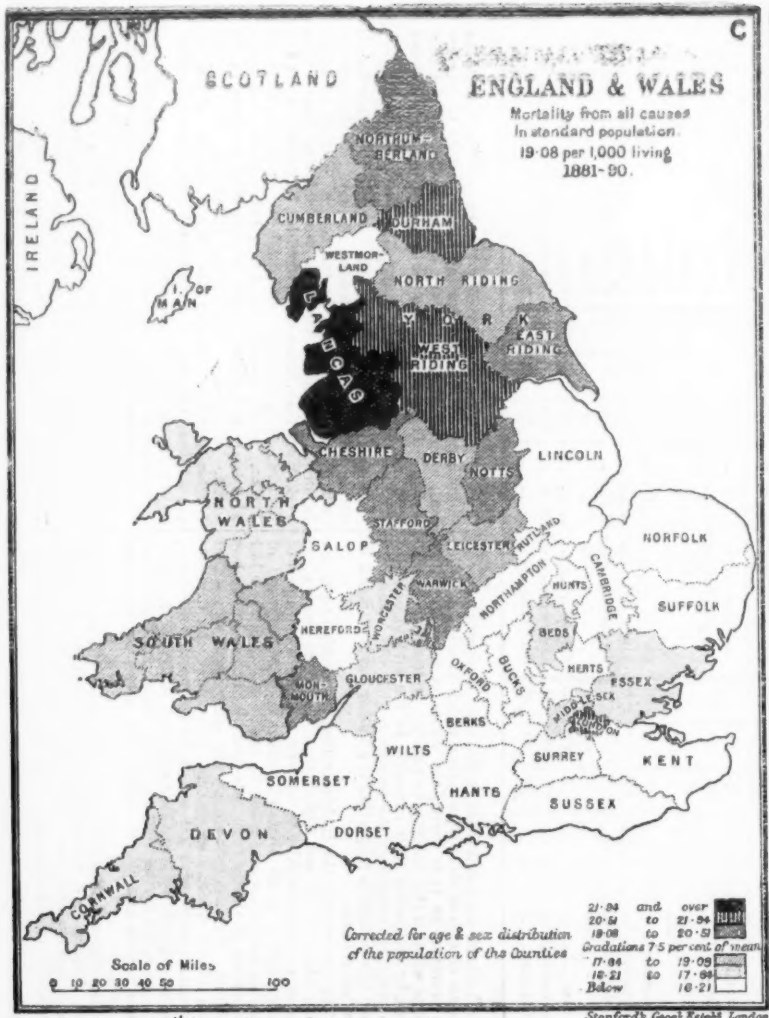
The causes leading to death from phthisis are numerous, diverse, and comprehensive, so much so, it would seem, that the same are also the agencies leading to a large proportion of other deaths. Both occupations and counties

In considering for locality the causes that affect the phthisis rate in the counties the local influence of tuberculous, zymotic, and respiratory system disease will be neglected. Their relation to phthisis is neither close nor constant.

OCCUPATION.

Occupational influence is marked by the death-rate for all causes falling upon the counties according to the aggregation of their population in the towns. The 11 counties, London, Monmouth, Warwick, Staffordshire, Notts, East York, West York, Lancashire, Cheshire, Northumberland, and Durham, alone have a general death-rate above the mean for England, owing to their population being mainly concerned with trade and manufacture, and to their dwelling in the towns. (Map C.) Worcester, Gloucester, Derby, and London suburban counties also consist largely of trading populations, but they join all the other counties in England in being below the mean death-rate.

Intimate as is the connexion of the phthisis rate (Map D) with the general death-rate it fails to follow that rate when it is above the mean in the manufacturing counties as often as not; it is only in London, Lancashire, West York, Durham, and Northumberland that the phthisis rate rises above the mean; the comparative immunity of the other counties shows that excess of phthisis need not accompany town occupations.



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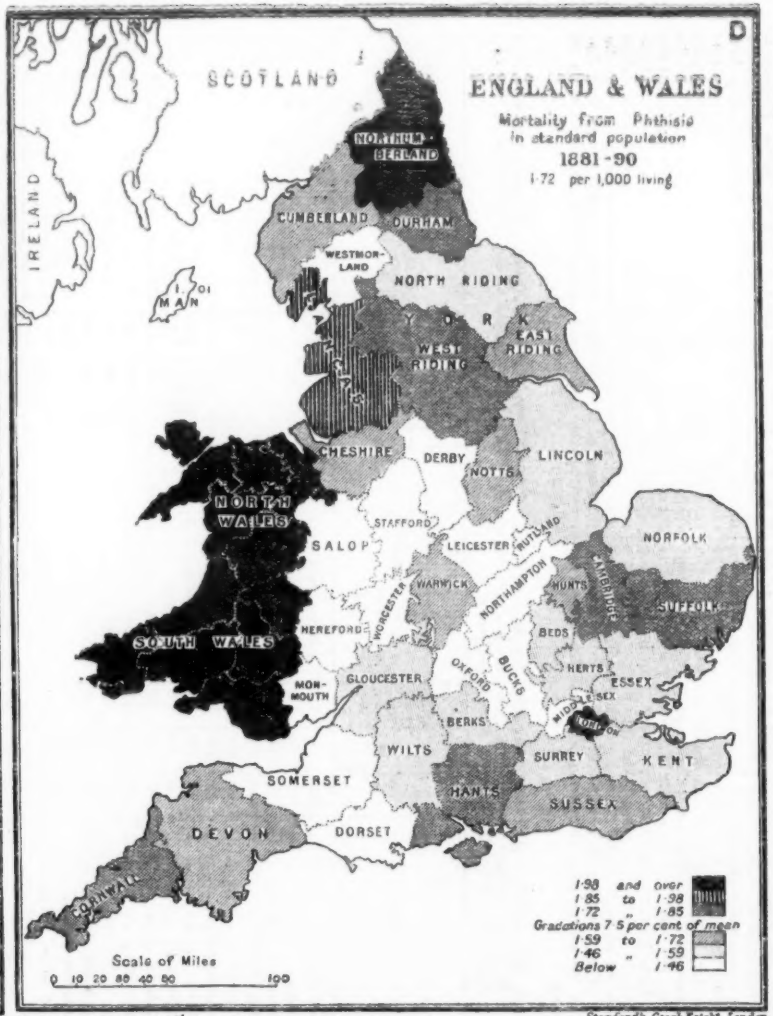

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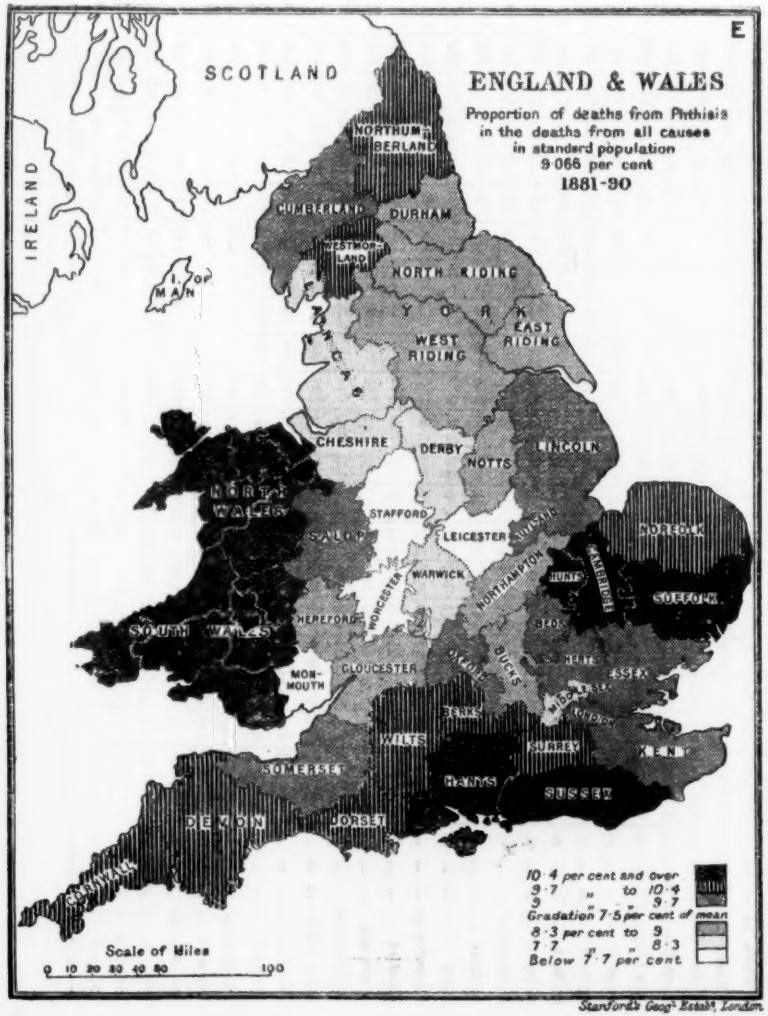

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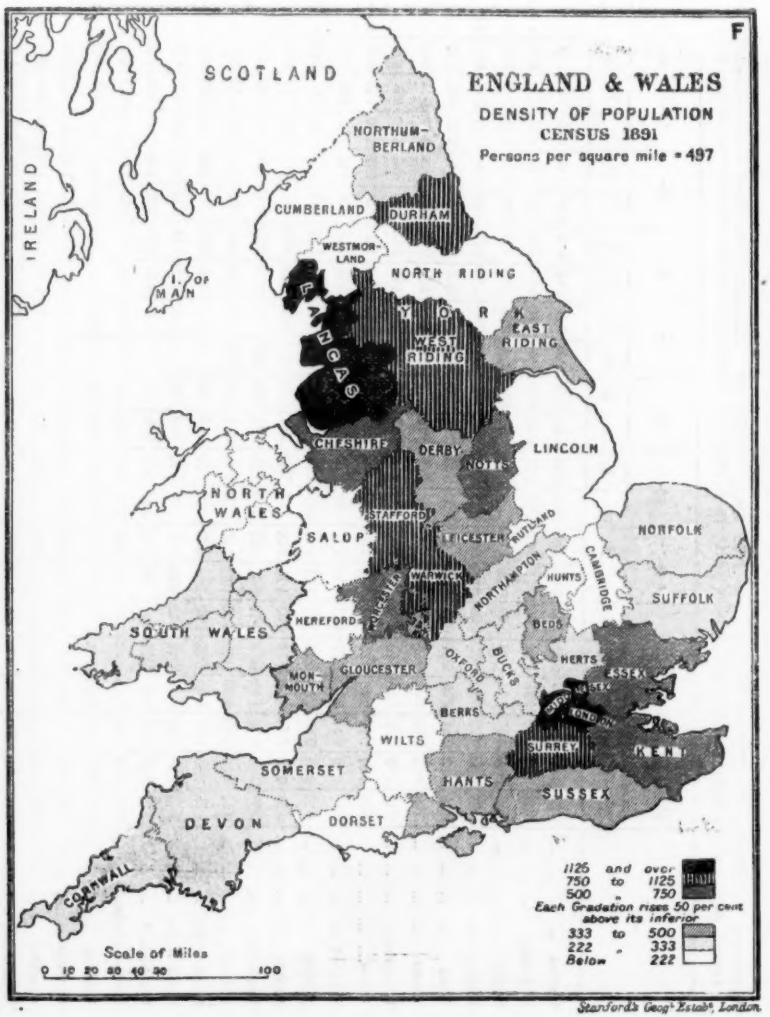

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APPENDIX I.—*Showing the Phthisis Mortality per 1000 living in 1881–90. Extracted from Part I., Supplement 55th Annual Report of the Registrar-General. Figures partly taken from Mr. Welton's, Manchester Statistical Society, 1896.*

—	Under 5.		5–		10–		15–		20–		25–		35–		45–		55–		65–		75 and upwards.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
London	0·72	0·67	0·25	0·30	0·29	0·53	1·17	1·20	2·26	1·62	3·80	2·59	5·30	3·24	5·47	2·58	4·64	1·82	2·70	1·05	1·14	0·52
Middlesex	0·54	0·56	0·20	0·23	0·28	0·49	0·81	1·02	1·68	1·20	2·41	2·06	3·04	2·24	3·53	1·84	2·93	1·34	2·25	0·79	0·81	0·50
Surrey	0·55	0·47	0·16	0·23	0·27	0·49	0·95	1·28	1·92	1·49	2·86	2·00	3·75	2·39	3·63	2·17	3·41	1·73	2·65	1·17	1·32	0·53
Kent	0·57	0·49	0·25	0·28	0·31	0·65	0·98	1·73	1·94	2·12	2·62	2·50	2·97	2·48	2·88	1·99	2·31	1·45	1·77	0·87	0·57	0·48
Essex	0 51	0·48	0·21	0·25	0·31	0·67	1·00	1·63	1·78	2·03	2·36	2·21	2·87	2·53	2·90	1·98	2·64	1·48	1·93	1·19	0·80	0·43
Sussex	0·46	0·43	0·19	0·26	0·28	0·55	1·05	1·60	2·36	2·07	3·41	2·50	3·77	2·62	3·59	2·02	2·97	1·49	1·66	0·80	0·80	0·17
Hampshire	0·44	0·45	0·19	0·24	0·22	0·56	1·27	1·78	3·03	2·34	4·12	2·93	4·20	2·88	3·66	2·12	2·57	1·47	1·53	1·01	0·59	0·28
Devon	0·66	0·67	0·20	0·29	0·31	0·73	1·27	1·87	2·61	2·61	3·32	2·85	3·14	2·51	2·73	1·68	2·52	1·72	1·79	1·34	0·93	0·43
Cornwall	0·95	1·09	0·17	0·20	0·27	0·83	1·33	2·11	2·72	2·86	2·73	2·76	2·62	2·19	3·62	1·75	4·36	1·67	2·85	1·20	0·77	0·36
Norfolk	0 70	0·62	0·28	0·31	0·29	0·70	1·24	1·98	2·52	2·52	2·60	2·70	2·41	2·44	2·24	1·90	1·97	1·40	1·43	1·00	0·38	0·21
Suffolk	0·53	0·58	0·24	0·32	0·34	0·83	1·31	2·34	2 90	3·10	3·32	3·11	2·86	2·85	2·83	2·08	2·43	1·65	1·36	1·27	0·47	0·52
Cambridge	0·76	0·79	0·21	0·28	0·24	0·77	1·08	2·21	2·70	2·93	3·01	3·04	3·29	2·48	2·72	2·03	2·35	1·44	1·56	0·99	0·56	0·24
Bedford	0 64	0·50	0·20	0 25	0·25	0·80	0·68	1·80	2·02	2·41	2·61	2·94	2·78	2·58	2·64	2·09	1·73	1·50	1·80	0·94	0·24	0·48
South Wales	0·73	0·69	0·37	0·48	0·52	1·10	1·78	2·57	2·86	3·21	3·04	3·57	2·79	3·33	3·01	2·46	3·27	2·02	2·62	1·56	1·17	0·63
North Wales	0·38	0·42	0·32	0·44	0·44	1·12	1·80	3·21	3·44	3·69	3·68	4·00	3·22	3·21	2·84	2·21	2·99	1·90	2·28	1·14	0·70	0·65
Cumberland	0·47	0·38	0·30	0·36	0·37	0·93	1·12	2·12	2·58	2·92	2·61	3·05	2·67	2·64	2·88	1·73	2·55	1·40	1·53	0·82	0·61	0·29
Northumberland	0·53	0·50	0·42	0·58	0·63	1·30	2·06	2·66	3·14	3·02	3·43	3·66	3·59	3 24	3 60	2·35	2·86	1·58	1·69	1·09	0·46	0·42
Durham	0·52	0·48	0·40	0·54	0·64	1·14	1·74	2·31	2·43	3·16	2·42	3·31	2·45	2·88	2·58	2·07	2·29	1·29	1·47	0·66	0·51	0·16
Lancashire	0·59	0·52	0·32	0·37	0·42	0·72	1·54	1·86	2·48	2·46	3·25	3·13	4·14	3·14	4·07	2·35	3·25	1·74	1·86	1·03	0·74	0·51
Cheshire	0·40	0·39	0·24	0·26	0·37	0·60	1·34	1·72	2·37	2·42	2·90	2·73	2·95	2·70	2 96	1·81	2·51	1·39	1·26	0·91	0·75	0·30
West Riding of Yorkshire	0·51	0·48	0·31	0·41	0·44	0·85	1·67	2·32	2·44	2·74	2·80	2·90	3·67	2·53	3·92	1·87	3·45	1·58	2·21	1·10	0·64	0·47
Warwick	0·34	0·30	0·14	0·23	0·24	0·45	1·04	1·34	2·25	1·78	3·12	2·30	4·04	2·53	4·07	1·98	3·44	1·48	1·79	1·01	0·71	0·25
Oxford	0·42	0·41	0·23	0·31	0·20	0·56	0·93	1·48	2·01	1·94	2·64	2·17	2·93	2·39	2·76	1·91	2·04	1·49	1·84	0·69	0·48	0·36
Westmorland	0·43	0·34	0·23	0·20	0·11	0·89	0·86	1·91	2·21	2·76	2·41	2·60	2·12	2·15	2·14	1·51	2·32	1·26	1·84	0·77	0·86	0·16
North Riding of Yorkshire	0·37	0·38	0·24	0·41	0·35	0·92	1·37	1·99	2·28	2·66	2·46	3·05	2·22	2·35	2·17	1·59	1·77	1·21	1·13	0·87	0·56	0·18
East Riding of Yorkshire	0·49	0·51	0·32	0·42	0·48	1·00	1·46	1·93	2·18	2·39	2·73	2·94	3·16	2·77	2·77	1·88	2·29	1·00	1·32	0·67	0·46	0·26
Lincoln	0·37	0·40	0·21	0·36	0·30	0·86	1·18	2·29	2·20	3·03	2·45	3·31	2·36	2·38	1·98	1·56	1·76	1·14	1·13	0·67	0·57	0·38
Rutland	1·29	0·69	0·07	0·29	0·14	1·08	0·63	1·51	2·11	2·66	2·60	3·03	1·39	2·41	1·72	0·66	1·47	0·48	1·45	0·35	0·00	0·00
Stafford	0·53	0·45	0·17	0·23	0·26	0·51	0·90	1·47	1·66	2·01	2·20	2·42	2·99	2·21	2·96	1·76	2·41	1·16	1·47	0·63	0·36	0·21
Derby	0·30	0·34	0·22	0·23	0·33	0·62	1·25	2·09	1·83	2·55	2·20	2·54	2·49	2·26	2·45	1·81	2·20	1·19	1·23	0·96	0·83	0·24
Nottingham	0·52	0·44	0·22	0·34	0·37	0·69	1·44	2·01	2·42	2·83	2·61	3·05	2·85	2·41	2·66	1·78	2·50	1·30	1·59	0·76	0·67	0·53
Leicester	0·40	0·37	0·13	0·21	0·28	0·42	1·06	1·60	2·22	2·08	2·55	2·34	2·64	2·05	2·37	1·44	1·70	0·81	0·81	0·34	0·21	0·11
Salop	0·38	0·38	0·21	0·28	0·21	0·62	0·72	1·77	1·90	2·40	2·95	2·66	2·37	2·12	2·26	1·44	2·13	1·18	1·36	0·80	0·49	0·37
Worcester	0·28	0·22	0·15	0·15	0·18	0·39	0·83	1·27	1·76	1·62	2·45	1·90	2·86	1·79	2·42	1·62	2·11	0·92	1·29	0·63	0·52	0·14
Hereford	0·31	0·39	0·11	0·27	0·21	0·55	1·11	1·64	2·09	2·52	2·29	2·58	2·20	2·21	1·90	1·25	1·57	0·98	0·74	0·52	0·53	0·26
Monmouth	0·69	0·49	0·21	0·32	0·30	0·57	0·98	2·12	1·65	2·55	2·19	3·15	2·19	2·60	1·84	1·68	2·04	1·14	1·29	0·58	0·39	0·23
Northampton	0·71	0·66	0·21	0·24	0·27	0·61	1·12	1·74	2·21	2·10	2·40	2·54	2·66	2·36	2·41	1·50	1·86	1·16	1·35	0·95	0·38	0·48
Huntingdon	0·67	1·00	0·32	0·19	0·10	0·69	0·98	2·12	2·56	3·72	2·71	3·38	2·68	1·81	2·32	1·47	2·24	1·37	1·57	0·90	0·35	0·28
Bucks	0·44	0·52	0·11	0·21	0·13	0·49	0·78	1·38	2·10	1·90	2·50	2·58	2·37	2·49	2·27	1·69	1·82	1·40	0·98	0·93	0·35	0·19
Hertford	0·34	0·37	0·11	0·22	0·22	0·66	0·86	1·79	2·25	2·40	3·03	2·35	3·41	2·16	2·89	1·57	2·45	1·23	1·32	0·74	0·56	0·13
Gloucester	0·49	0·50	0·18	0·27	0·21	0·67	1·04	1·57	2·28	2·10	2·93	2·51	3·13	2·40	2·72	1·87	2·06	1·20	1·34	0·74	0·40	0·34
Somerset	0·29	0·33	0·14	0·20	0·23	0·45	1·05	1·63	2·36	2·34	2·99	2·41	2·88	2·06	2·48	1·56	1·82	1·10	1·08	0·65	0·47	0·24
Dorset	0·40	0·48	0·11	0·15	0·21	0·54	1·07	1·73	2·17	2·50	2·69	2·69	2·38	2·23	2·08	1·69	1·60	1·34	1·49	1·09	0·75	0·45
Wilts	0·45	0·50	0·17	0·27	0·27	0·51	0·95	1·96	2·04	2·80	2·89	2·80	2·60	2·33	2·60	1·77	2·05	1·22	1·15	1·00	0·53	0·25
Berkshire	0·73	0·63	0·16	0·24	0·16	0·46	0·83	1·40	2·22	2·18	2·66	2·28	3·10	2·25	3·02	1·71	2·63	1·49	1·80	1·10	0·57	0·52
England and Wales	0·55	0·51	0·25	0·32	0·33	0·69	1·28	1·79	2·32	2·31	3·02	2·78	3·56	2·73	3·49	2·05	2·92	1·51	1·81	0·97	0·68	0·39

APPENDIX II.—*Showing the Mortality per 100,000 in Standard Population, 1881–90.*

—	Population for 1881–90 in thousands.	All ages.		25 to 35.		Census 1891: population per cent. of overcrowding.	Royal Commission on Labour: agricultural labourer's wage, about 1893.
		All causes.	Phthisis.	All causes.	Proportion per cent. due to phthisis.		
England and Wales	27488	1908	172	752	38	11	—
London	4211	2142	200	771	41	19	—
Surrey	572	1556	156	640	37	2	16*s.*
Kent	806	1594	152	669	38	3	15*s.*
Sussex	554	1494	166	644	44	3	12*s.*—14*s.*
Hampshire ...	666	1600	184	777	43	2	—
Berkshire	268	1502	149	636	37	5	—
Middlesex ...	575	1662	139	611	38	6	—
Hertfordshire	215	1541	150	656	40	5	12*s.*—15*s.*
Buckinghamshire	164	1526	135	626	38	5	13*s.*—14*s.*
Oxfordshire ...	188	1515	143	623	38	7	12*s.*—15*s.*
Northamptonshire	308	1621	145	631	39	5	13*s.*—14*s.*
Huntingdonshire	50	1394	164	610	49	6	12*s.*
Bedfordshire ...	166	1630	154	646	43	4	12*s.*—13*s.*
Cambridgeshire	196	1540	173	680	44	6	12*s.*—13*s.*
Essex	761	1632	147	621	36	5	12*s.*—13*s.*
Suffolk	353	1529	180	694	46	6	12*s.*—13*s.*
Norfolk	460	1558	155	669	39	6	12*s.*—13*s.*
Wiltshire	255	1495	151	678	44	6	—
Dorsetshire ...	189	1424	142	631	42	5	—
Devonshire ...	636	1656	171	727	42	10	13*s.*
Cornwall	318	1718	178	673	40	6	13*s.*—15*s.*
Somersetshire...	510	1550	141	561	40	4	15*s.*
Gloucestershire	548	1689	151	688	39	6	11*s.*—15*s.*
Herefordshire...	113	1501	130	660	36	3	12*s.*—15*s.*
Shropshire ...	254	1551	142	716	53	10	11*s.*—16*s.*
Staffordshire ...	1103	1999	139	724	31	10	12*s.*—18*s.*
Worcestershire	422	1666	121	604	36	8	—
Warwickshire ...	801	1925	161	727	37	11	16*s.*—18*s.*
Leicestershire...	379	1792	131	634	38	3	14*s.*—17*s.*
Rutlandshire ...	22	1420	136	545	51	7	—
Lincolnshire ...	467	1594	152	702	40	4	13*s.* 6*d.*—14*s.*
Nottinghamshire	505	1913	162	722	38	4	13*s.*—15*s.*
Derbyshire ...	432	1788	143	669	35	6	13*s.*—18*s.*
Cheshire	768	1943	159	763	36	7	15*s.*
Lancashire ...	3958	2419	192	895	35	9	17*s.*—18*s.*
West Riding of Yorkshire ...	2464	2123	183	761	37	16	—
East Riding of Yorkshire ...	400	1914	165	786	36	6	16*s.*
North Riding of Yorkshire ...	354	1767	150	770	35	9	—
Durham	1024	2057	174	775	36	34	16*s.*—18*s.*
Northumberland	506	2019	209	885	40	38	14*s.*—21*s.*
Cumberland ...	266	1795	165	764	37	13	18*s.*
Westmorland ...	66	1432	141	612	39	4	—
Monmouthshire	275	1953	145	810	33	9	12*s.*
South Wales ...	965	1904	200	843	39	8	—
North Wales ...	456	1706	211	876	44	8	12*s.*—15*s.*

APPENDIX III.—*Fifteen Sanitary Districts with the least Phthisis Rate in their County. Geological Notes by Professor H. G. Seeley.*

Crude phthisis death-rate. 1861–70. Male.	Fem.	1881–90. Male.	Fem.	District.	—
140	177	111	142	Sheppey (Kent).	Sheppey in the south is marshy alluvium; in the north, though London clay, it i high, with a good slope to the south and some places have a capping of Bagsho sands.
207	220	126	126	Cuckfield (Sussex).	Mainly weald clay, but the northern part is so broken up with faults that areas o sandstone are intermixed with clay. As it is near the top of the Wealden an clinal fold it is diversified and has none of the low character usual with clay.
177	211	95	134	Hungerford (Berkshire).	Chalk with some London clay to the east.
186	239	97	104	Chipping Norton (Oxford).	Alternations of lias clay and lower oolitic sand and limestone; it seems well draine and is a thriving manufacturing district.
155	166	127	87	Epping (Essex).	London clay with some sand and gravel on the higher ground, inhabited partly as a suburb of London.
172	187	113	107	Mutford (Suffolk).	Lowestoft district, one-third alluvium, one-third boulder clay, one-third sand and gravels.
171	224	106	181	Caxton (Cambridge).	Neocomian ferruginous sand with gault clay above and Kimmeridge clay below south and north.
149	234	103	125	Axminster (Devonshire).	On the coast south lias clay, inland green sand, and trias sand.
170	183	125	154	Launceston (Cornwall).	Slate.
142	169	68	94	Chipping Sodbury (Gloucester).	Limestone, sandstone, and clay in parallel strips.
144	182	91	98	Cannock (Staffordshire).	Trias; sandstone and coal shale on the border of the Black country.
145	166	97	79	Stourbridge (Worcestershire).	
180	291	92	129	Nuneaton (Warwickshire).	Chiefly Permian and trias sandstone with a little coal.
137	233	82	72	Lutterworth (Leicestershire).	Lias clay and trias sandstone.
192	299	108	152	Basford (Nottinghamshire).	Mainly trias sandstone with a little magnesian limestone in the west.

In the healthier rural or less manufacturing counties phthisis mortality more closely coincides with the low mortality for all causes. But frequent exceptions are seen in as many as one-fifth of these counties—Suffolk, Cambridge, North Wales, South Wales, Surrey, Hampshire, and Cornwall—which while above the mean for phthisis rate are far below the mean in density of population (Map F) and death-rate. Then the broad statement may fairly be made that occupational influence alone gives no explanation to account for this want of coincidence in either case.

If the rate of declension in the counties be compared there is little or no difference between counties which are specially urban and those which are rural.

FOOD.

If we turn to another factor in phthisis—food—the map of phthisis mortality again affords slight indication that a difference in nutrition accounts for the difference in incidence of phthisis while not contradicting the idea. But the map of liability to die from this kind of death instead of another (Map E) suggests at once that much of phthisis occurs in inverse proportion to the wages of the people, for it is wage above all things which attracts the population to the towns and with two exceptions—London and Northumberland—all the 11 counties with highest mortality in England have a proportion of deaths from phthisis which is below the mean.

VENTILATION.

These two counties, London and Northumberland, suggest the next factor—air. These two, with Durham and West Riding, are the counties with most overcrowding in England and it is upon that account largely that these four counties appeared above the mean mortality of England and Wales both for all causes and especially for phthisis. When the age incidence of these counties is inspected it is seen that the maximum mortality is a decennium later than usual in men—not till from 45 to 55 years. That this is due to overcrowding was shown in the chart. It is remarkable that 13 counties only show this late maximum; of these, six are the only six counties whose overcrowding is above the mean for England (adding Warwick and Cumberland to those named), the other seven counties being Cornwall (showing the influence of mines), Middlesex and Essex (showing the influence of London), South Wales, Cheshire, and the small populations of Rutland and Westmorland.

The influence of overcrowding is equally visible when the rate of declension in counties is compared. Just as it was shown in the sanitary districts of London that a very high rate of overcrowding, over 30 per cent., was sometimes accompanied with no declension of phthisis, so it is seen that the exceptionally overcrowded counties—Durham, 34 per cent.; Northumberland, 38 per cent.—have made very much less advance than any of the other counties of England, only about one-half of the mean declension for England and Wales, when the crude rates of the Registrar-General for 1861 to 1870 and 1881 to 1890 are compared.

CLIMATE.

Finally, noting the dryness of climate. It is well known that drainage of the subsoil has had much influence in towns upon the declension of phthisis.

Dampness, whether of soil or atmosphere, seems to be a special attribute of those counties which have a high phthisis rate contrasting with a low death-rate from all causes. I refer to Cambridge and Suffolk, Cornwall, North Wales, and South Wales. Other agencies are present affecting nutrition in most marked degree in both North and South Wales, as has been mentioned; low wages are conspicuous in Cambridge and Suffolk; and mine ventilation, at later age groups, affects Cornwall. It may be noted that Cornwall and Cumberland probably agree in being better supplied with food than some agricultural counties, while at the early ages they show an exceptionally heavy mortality from phthisis. This suggests that damp, like general nutrition, has a great effect upon the children and young adults. Dampness of houses in nearly all rural districts is a factor the influence of which would extend over all those rural counties whose special liability to die from phthisis rather than from other causes has been associated above with a lower wage; Dr. Plowright noted its influence in his local survey. Full investigation is required to tell whether it be a less or more important factor. Professor Seeley, of whom I inquired the superficial geology of 15 of the healthiest rural districts, informed me that nearly all were of a mixed character and many were not characterised by marked dryness of soil. His notes are of such interest that they are appended (Appendix III.).

It does not appear that dampness of soil or climate has prevented the affected counties having an equal share in the rate of declension.

The local influences thus too briefly considered have existed in the counties for the past generation and the same difference has existed in the incidence of phthisis always subject to the general declension. In time doubtless the county medical officers of health will supply fuller and more definite evidence. The multitude of the data which it has been necessary to consider in attempting to gauge the causes of the declension of phthisis has obliged me to content myself with presenting but a summary of those factors which can best be measured. These have been, I believe, the most important factors, but others of importance have been left unconsidered, some of which play a considerable part in causation, as alcohol, and others which one can only find to be of small account, as house infection.

No attempt has been made to gauge increased efficacy of treatment of the disease.

The condition of the lung seems to be everywhere influenced by those few well-known evil influences which I have discussed and to respond by becoming infected with tubercle. Just as clinical evidence shows the apex of the lung alone succumbing to an infection which, it must be supposed, attacks also other regions of the lung, so the evidence of the death returns would indicate weak lungs succumbing to an infection that must attack many more strong lungs without effect. Further, the death returns show how vast are the opportunities of infection, the sparse populations dying from this disease in a greater proportion of deaths than the crowded populations, always excepting overcrowding.

The figures do not tell how many of all the deaths from phthisis are under the fluctuating influences we have considered, but we may safely infer that the proportion is large and further that, great as the declension of phthisis has been, great it may continue. Leprosy, which had poverty as its most prominent association, has vanished. Further advances in the prosperity of the population will go far to assist in the disappearance of phthisis from England.

It has not been without much ready assistance from the officials at Somerset House, the Commissioners in Lunacy, Mr. Shirley Murphy, and many medical officers of health, medical men in different parts of the country, and friends, that I have been able to collect the information upon which I have based my remarks, to all of whom I am under very great obligations.

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EXETER DENTAL HOSPITAL.—The nineteenth annual meeting of those interested in the Devon and Exeter Dental Hospital was held recently. The report showed that 2902 cases had been treated during 1898, making a total of 94,805 since the opening of the institution

THE WATFORD POISONING CASE.—On April 10th at the Metropolitan Asylum, Leavesden, near Watford, Mr. Broad, the coroner, resumed an inquest on the body of Caroline Ansell, an inmate, whose death on March 14th is alleged to have resulted from eating poisoned cake sent to her by post. The jury found a verdict of "Wilful murder" against the sister, Mary Ann Ansell, the motive suggested for the alleged crime being to secure the sum insured on the dead girl's life.

A CASE OF MYOSITIS OSSIFICANS PROGRESSIVA.

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AND

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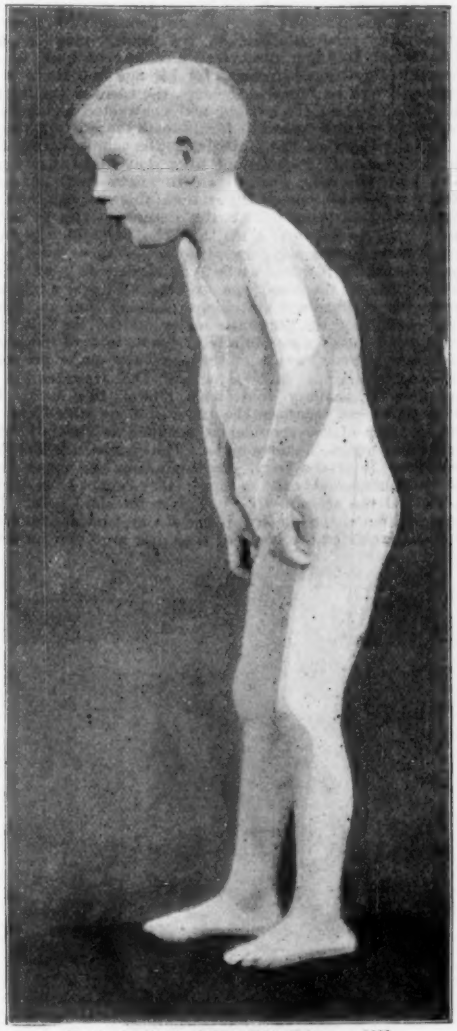
SURGEON TO THE SHEFFIELD ROYAL HOSPITAL.

WE are induced to record the present case both by reason of the rarity of the affection described and also on account of its obscure pathology. We have thought it well to give in some detail the chief matters round which controversy has ranged itself, such as the family history, the associated illnesses, and other points.

The patient was a boy, aged six and a half years, who was admitted to King's College Hospital in February, 1899. For some two or three generations on either side there does not appear to have been any predisposition to rheumatism, to nervous affection, or to the so-called ossifying diathesis in any form. The boy had two sisters who were both living and healthy. His father and his mother were living and strong. His grandfather on the paternal side was living and healthy, as was also his grandfather on the maternal side. His paternal grandmother had died from chronic bronchitis and his maternal grandmother from non-rheumatic heart disease. His mother's grandfather and grandmother had both died in old age, the former from cancer of the tongue. He was the eldest child and there had been no difficulty in his birth. The absence of the ungual phalanges of the third and fourth toes of the left foot was noted at birth, as was also the throw outwards of the great toe underneath the second toe on each foot. He was a strong, healthy child until two and a half years of age when he had German measles, and while recovering from this he fell and bruised his right shoulder. No history of swelling of the right shoulder was forthcoming but in the course of the same month as that of the accident he was under treatment at the Sheffield Children's Hospital for stiffness in the right shoulder which was not relieved. Presumably, then, the illness may be dated from January, 1895, when the child was two and a half years old. This seems to be just about the average age of onset in the recorded cases although Kummel records a case which began at 14 days of age and Kronecker one at 54 years of age. The relation of the onset to injury has been noticed in such a very large number of cases as to put Pinter's incredulity on the point out of court.

The next record of the patient is in June, 1895, when he came under the care of Dr. A. J. Hall at the Royal Hospital, Sheffield, with the disease well developed. Dr. Hall noted that the head was drawn to the right side, that the right sterno-mastoid was tense and contracted, and that there was a bruise between the right scapula and the spine. There was also a distinct swelling in the right posterior axillary fold just in front of the outer edge of the scapula which was firm but ill-defined in outline. There was no tenderness over the swelling, but there was pain when the right arm was raised. This is the only suggestion we have been able to trace of a state of swelling prior to ossification such as has been described by Munchmeyer, Godlee, and others. Munchmeyer recognises three distinct stages in the progress of the disease: (1) a proliferation of young cells in the interstitial tissue of the muscle which enlarges the muscle and its sheath; (2) that the strand becomes fibrous and that it contracts and hardens the fleshy mass; (3) that ossification takes place at certain points of the muscle; and (4) true ossification. For the next year the patient was lost sight of until, in June, 1896, he came under the notice of Mr. Lockwood who describes his condition as follows[1]: "You will notice his peculiar bend forward of the body and head and the rigidity of his spine and flexure. He cannot raise his shoulders at all and cannot even raise his hands to his mouth. When he wants to put any food into his mouth he has to place it on a chair and take it into his mouth—as his mother puts it, 'like a dog.' He stands with his hands crossed in front of him, and his hands are never quiet for more than a second or two. The right pectoralis major is ossified and fixed to the sternum; his left one is simply fixed. At the back you will see a large number of hard masses in the dorsal region which have deflected the spinal column. These hard masses are presumably formed by the ossification of the latissimus dorsi and trapezius muscles. You will notice also that the terminal phalanges of the third and fourth toes of the left foot are absent, and deformity of the great toes which are turned outwards and under the second toe, producing a condition of hallux valgus." Eight months later (on Feb. 6th, 1897) Mr. Lockwood added: "I have examined the boy again and find that the ossifications of the back have increased largely in size. Both shoulders and the right elbow are quite fixed. The muscles of the thighs feel much harder and tenser than normal and the orbicularis palpebrarum has an ossification in its lower part. At times the boy experiences great difficulty in breathing and has an intense thirst, otherwise his general health is good."

FIG. 1.



Habitual attitude of the child in February, 1899.

The habitual attitude of the child in February, 1899, is as shown in Fig. 1. He has grown, so to speak, in the only

[1] Quarterly Medical Journal, April, 1897.

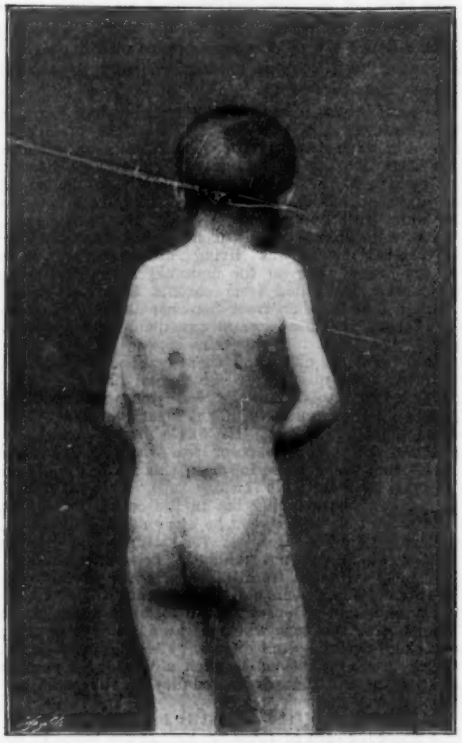
direction which is permitted by the bony plates which immoveably fix his vertebral column. He stands with his head thrown forward and his back bent like an old man. His upper arms are set fast at his sides and the hands are either clasped in front of him or hanging loosely pronated over his thighs. The ceaseless movements of his fingers are in marked contrast to the general listlessness and fixity of his attitude. The head besides being thrown forward is slightly drawn down towards the right shoulder with the face inclined to the left. The rigidity of the muscles at the back of the neck scarcely permits any nodding movement of the head, and rotation from the mid-line is limited to an inch or so in either direction. The skull is distinctly more bossy than is usual, more particularly in the frontal and occipital regions. His eyes are perfectly normal—we mention this because Bokay noted the affection in the ocular muscles, and Billroth and Zollinger discovered a calcareous plate in the choroid. Dentition is normal for his age and there is no abnormality to be found in the ears, the nose, or the larynx. The nape of the neck is rigid and contracted and a small transverse bar of bone can be felt beneath the skin apparently in the substance of the trapezius. The comparatively free movement of this fragment of bone shows that at any rate not all of the bony growths are in anatomical connexion with pre-existing bone. Other than this we can find no development of bone either in the sterno-mastoids or in the muscles of the cervical spine, and the fixity of the head seems to be due to a rigid contracture of these muscles—a condition which it would seem is antecedent to ossification. In the front of the chest one may see at times a constant succession of fibrillary twitchings coursing over the clavicular portions of the pectoralis major and of the deltoid as though their fibres were subjected to some form of irritation. The humeral attachments of the pectoralis major are tense and contracted on each side, and the free margin of the anterior axillary fold feels almost like bone, but so far as we can ascertain the plate of bone which can be felt in front of the shoulder is confined to the latissimus dorsi and perhaps the teres major. The condition is identical on either side of the body. By this means the upper arms are glued immoveably to the sides; they cannot be abducted at all and the attempt to do so gives the child pain. The fixed position of the humerus is one of slight inward rotation. We have examined the bones of the upper arms and forearms

FIG. 2.

Skiagram showing the extreme shortness of the bones of the thumb.

throughout by means of skiagrams and find no abnormality of any kind except some undue prominence of the anterior bicipital ridges on either side. This tendency to overgrowth of normal prominences and processes of bone is a marked feature of the case. The new bone is not developed at random but almost without exception in relation to some normal protuberance which has taken on abnormal growth. In the hands there is a condition of microdactyly of each thumb; the thumbs are very short and reach only just beyond the metacarpo-phalangeal joint of the index finger on either side, and they are also turned considerably inward. The shortness is not due to absence of a phalanx, as may be seen in the skiagram (Fig. 2), but to shortness of all the bones of the thumb, particularly the metacarpal bone. The synostosis of the first and second phalanges of the thumb which is present in this case has been previously noted by Helferich. The full respiratory expansion of the chest ranges over less than one inch, but

FIG. 3.



Back view of the patient showing the bony ridges.

beyond the feeble entry of air we have not been able to detect any fault in the lungs. In the heart there is disease of the mitral valve with regurgitation which may, perhaps, be taken as an abarticular evidence of rheumatism. Respiration is almost exclusively abdominal. The abdominal viscera and the muscles of the abdominal wall appear to be perfectly healthy. The urine also is normal. Turning to the back there is no movement at all in any portion of the dorsal or lumbar spine. There is one unbroken backward curve of the spine and in this position the spinal column is permanently locked by the succession of bony splints and possibly also by synostosis of the vertebræ. Small bosses of bone can be felt and seen on the spinous processes of the second and third dorsal vertebræ and from these low ridges of bone project into the retro-vertebral muscles on either side. These ridges are not visible but can be clearly felt. The fourth, fifth, and sixth dorsal vertebræ do not seem to be affected but there is a sharply angular exostosis in connexion with the spine of the seventh dorsal vertebra over which the skin is thin and threatens to perforate. At the site of the eighth dorsal spine there is a large process of bone stretching to the right and left of the mid-line and extending below on either side in a bony ridge which runs apparently in the substance of the erector spinæ muscle down to thei liac crest and terminates on each side in a bony protuberance on the crest of the ilium close to the spine,

The ridge in the left erector spinæ is about one and a half inches in breadth throughout its whole extent, but that on the right broadens considerably from above downwards and

FIG. 4.

The bony ridges seen sideways.

FIG. 5.

Another view of the bony ridges.

is as much as two and a half inches in breadth where it reaches the crest of the ilium. These ridges are very well seen in Figs. 3, 4, and 5. Returning to the level of the eighth dorsal vertebra, there is also on either side of the spine a ridge of bone running upwards and outwards into the muscles of the back. All these ridges together form a rough semblance of the capital letter H with the cross stroke at the level of the eighth dorsal vertebra (see Fig. 5). These upper limbs seem to lie in the substance of that portion of the trapezius muscle which is attached to the spine of the scapula. They appear to cross the scapula midway between its spine and the inferior angle and just beyond the outer border of the scapula they become merged in the ossification of the latissimus dorsi. The condition so far is identical on the two sides, but on the left side an additional offshoot is given off from the left upper ridge downwards for some two and a half inches along the vertebral border of the scapula. We have not detected any abnormality of the pelvis; when the child is sitting,

FIG. 6.

Skiagram of the right foot. The metacarpal bone of the hallux is synostosed with the first phalanx. The second phalanx is thrown outwards.

a symmetrical pair of bony tubercles stand out prominently either from the last piece of the sacrum or from the first piece of the coccyx. Skiagrams failed to show any abnormality of the bones or muscles of the thighs or legs, but a condition which has several times been described as hallux valgus is present in both of the great toes. It has been so often described in the recorded cases of myositis ossificans progressiva that the deformity must be regarded as part and parcel of the disease. The skiagrams (Fig. 6 and Fig. 7) which we have obtained show that at any rate in this case the condition is quite distinct from hallux valgus. The condition in each great toe is synostosis of the metacarpal bone and the first phalanx and the second phalanx is thrown outward beneath the second toe. It is easy to see how this throw outward of the last phalanx serves to correct

the false position in which the first phalanx is fixed, and we would suggest that in the previously recorded cases this may have been the simple explanation of a seemingly mysterious deformity. In the left foot the terminal phalanges of the third and fourth toes are both absent.

FIG. 7.

Skiagram of the left foot. The same conditions exist as in the right foot, but in addition the terminal phalanges of the last two toes are wanting.

A CASE OF MALTA FEVER TREATED WITH MALTA FEVER ANTITOXIN.

BY E. D. FITZGERALD, M.R.C.S. ENG., L.R.C.P. LOND.,
AND
J. HOGGAN EWART, M.D. EDIN.

AN officer serving with the Mediterranean squadron at Malta contracted Malta fever and went on the sick list on August 11th, 1898. The treatment was not stated but he returned to duty on Sept. 3rd. On Sept. 23rd he was again placed on the sick list, when his temperature was 102° F. For a week previously he had felt ill, with severe pains across the eyes and at the back of the head. On Oct. 7th he went into Malta Hospital. The temperature was very variable, the highest being 103·8°. He had rheumatic pains and severe headaches. On Oct. 22nd he was invalided home and he came under our care at Folkestone on Oct. 31st.

When first seen the patient was anæmic in appearance, the heart sounds were muffled and weak, and the temperature was intermittent, subnormal in the morning and from 100° to 101° at night. He complained of rheumatic pains, his tongue was furred, and his liver was slightly enlarged. The patient was put to bed, was placed on a milk diet, and was treated with phenacetin and calomel. He improved considerably in a few days and was put on iron and quinine and later on arsenic. Although he improved temporarily under treatment and was able to get out he constantly had relapses. His temperature never remained normal for more than a week or ten days together, his anæmic condition persisted, and he really got no better, no treatment appearing of any permanent benefit.

The patient mentioned that a friend of his had been cured by the injection of Malta fever antitoxin and he was anxious to try it himself. We could find no account of such serum on inquiry and the Naval Board knew nothing about it. We therefore wrote to Professor Wright of Netley, an acknowledged authority on Malta fever. Professor Wright being in India, Major Semple, R.A.M.C., very kindly answered our letter and informed us that they were then carrying out this treatment at Netley and that they had treated some 50 cases, including both Professor Wright and himself, with marked benefit; whereas they found that all drug treatment failed the antitoxin treatment had been generally successful. By the courtesy of Major Semple we were supplied with 60 cubic centimetres of the serum, and Major Semple also examined a specimen of the patient's blood, but the Malta fever germ was not detected and he informed us that he usually failed to find it in the blood.

On Jan. 31st, 1899, with all the usual precautions we injected 20 cubic centimetres of serum. The temperature had been below normal for five days previously. On the following day the temperature was 99° and we again injected 20 cubic centimetres. On Feb. 2nd the temperature rose to 101·6°, but otherwise the patient was very well. The temperature fell again on Feb. 4th and then for the next few days it was variable, ranging from 98° to 100°. A smart attack of urticaria came on on Feb. 6th commencing at the abdomen which was the seat of inoculation. On Feb. 12th the temperature began to rise again, reaching 102° on that night. The patient was fairly well, though the discomfort from the urticaria was considerable. On Feb. 13th as the temperature was still high, we injected a third dose of 20 cubic centimetres of the serum. This was followed by a serious reaction, the temperature rising to 104·6° on Feb. 15th and the patient looking and feeling very ill with urticaria all over his body. The joints were swollen and painful, the breathing was quick, there was slight cough, and the expectoration was tinged. It seemed that he had a general urticaria, both externally and internally, causing exudation from the various serous membranes. These grave symptoms gradually subsided, the temperature slowly falling at the same time, and on Feb. 21st it was normal and the patient was convalescent. From that day he rapidly picked up strength. The temperature became subnormal and remained so for some two or three weeks, but day by day he felt better and he has not had the slightest return of the Malta fever symptoms. His temperature has not been above normal for over a month—by far the longest period since the commencement of the illness during which it has remained so. The patient has now gone away, but he has written to us to say that he feels perfectly well and strong again. We examined his blood twice—once on Jan. 30th, the day before the first injection, when the hæmoglobin was 120 and the corpuscles were 7·3, and for the second time on Feb. 2nd, after the second injection, when the hæmoglobin was 105 and the corpuscles were 6·93.

In conclusion, we must express our gratitude to Major Semple for supplying us with the serum and for information concerning its use.

Folkestone.

NOTIFICATION OF MEASLES.—At the meeting of the Bodmin Town Council, held on April 6th, it was resolved, on the motion of the mayor, that the Infectious Diseases (Notification) Act should apply to measles.

NEW WORKHOUSE INFIRMARY.—The new workhouse infirmary for the Falmouth Union was formally opened by the chairman of the board of guardians (Mr. T. Webber) in the presence of a large assembly of townspeople. The cost of the building amounted to £2100 and the Local Government Board Inspector (Mr. H. Preston Thomas) who was present at the ceremony congratulated the guardians upon the completion of such an excellent hospital.

A CASE OF RUPTURED TUBAL PREGNANCY,

INFECTION; CŒLIOTOMY; LARGE INJECTIONS OF SALINE SOLUTION WITH BRANDY; RECOVERY.[1]

BY C. HAMILTON WHITEFORD, M.R.C.S. ENG., L.R.C.P. LOND.,

MEDICAL OFFICER TO THE PROVIDENT BRANCH OF THE PLYMOUTH PUBLIC DISPENSARY.

I SAW the patient, a married woman, aged 24 years, at Dr. R. H. Clay's request on Feb. 14th, 1899. The following was the history of the case. The patient had been married for seven years. She had had two children, six and five years ago. There had been no miscarriages. She had not missed a period for five years till Jan 15th last, when the period then due did not appear. On Feb. 3rd there had been "pain in the back and both passages." Retention of urine had been relieved by catheter. Pain had been again experienced on the 6th and there was a little blood per vaginam. There had been "straining in the back passage" on the 10th, with diarrhœa and a few clots per vaginam. On the 13th there had been diarrhœa and pains like those of labour. When I saw the patient on the morning of the 14th I ascertained that except for the amenorrhœa she had no reason to think herself pregnant. She had had leucorrhœa before and after marriage, but had had no abdominal pain during the last five years. The abdomen was slightly distended and tender, with an indistinct sense of resistance above the pubes. It was resonant except in the flanks, where dulness was most marked on the left side. The dulness was not affected by change of position. Per vaginam the uterus was found to be depressed and close behind the pubes. The cervical canal was closed. In Douglas's pouch was a smooth, very tender mass resembling an ovary; the rest of the pelvis felt full and boggy. Per rectum the same boggy mass was felt. The upper rectum felt constricted. The lips were somewhat anæmic. The pulse was 110 and the temperature was 101° F. Since 5 o'clock on the previous evening the patient had taken 80 minims of solution of morphia; she had been free from pain and had slept well. I diagnosed ruptured tubal pregnancy with coagulation of effused blood. When seen again at 9 P.M. it was found that in spite of the administration of 40 minims of solution of morphia there was great pain in the lower abdomen which was much more distended and which had a dull area above the pubes corresponding with a distended bladder. The temperature was 103° and the pulse was 124. The face presented a drawn appearance and the breath had an odour suggestive of grave sepsis. I considered that the blood in the abdomen was becoming infected and that possibly a fresh hæmorrhage was taking place, so, with Dr. Clay's concurrence, I decided to operate without delay.

At 1 A.M. on Feb. 15th chloroform was administered by Dr. Bushnell. The abdomen was scrubbed with soap-and-water and the pubes was shaved. 15 ounces of urine were withdrawn by catheter. Assisted by Dr. Pethybridge I opened the abdomen by a six-inch incision through the right rectus. The omentum and small intestines were partly adherent to the pelvic contents. On separating these handfuls of dark clot and fluid blood appeared. The uterine vessels were at once clamped at each cornu. After emptying the pelvis of blood the right Fallopian tube was found to be ruptured at its centre leaving a ragged cavity. The right ovarian vessels were tied at the pelvic brim and the uterine vessels at the uterine cornu. I had intended cutting away the tube and ovary and then uniting the two layers of broad ligament by a continuous suture, but as by this time the radial pulse had vanished I transfixed the broad ligament and tied off with the usual interlocking suture. On removing the clamp from the left uterine vessels some oozing occurred which was controlled by a double ligature not interlocked. Several large clots were removed from the right loin; the left flank appeared to be empty. The omentum had several clots incorporated with it, as had also the rectum and uterus. These clots were so adherent that they were left. Some difficulty was experienced in replacing the distended intestines. Mass sutures were used to close the abdomen. Before tying the last suture five and a half pints of hot saline solution were poured into the abdomen through a funnel and tube directed under the liver. This revived the patient slightly but she was still pulseless at the wrist. So far the operation had lasted an hour and five minutes. The chloroform administration was now stopped. On looking for a superficial vein into which to inject saline solution none was visible. The venæ comites of the right brachial were then exposed in the middle of the right arm. They were so small that it was impossible to introduce a cannula. The incision was then prolonged up to the fold of the axilla where the veins united and into this vein eight and a half pints of hot saline solution with an ounce of brandy were injected. Chromic catgut ligatures were used throughout. The patient who from excess of fluid was very bloated and blanched was warm and had a small radial pulse of 140. Just before being put into bed she had several rigors the result of the saline injections. She had a fair night with no sickness, sleeping fairly and passing a pint of urine. When seen at 10 A.M. her right forearm was very swollen and her face suggested severe nephritis, being very white and œdematous. The bowels had acted slightly. On the 16th she had taken small quantities of milk, brandy, and soda water. The bowels were acting freely. She had passed four pints of urine in the 24 hours following the operation. From the 17th onwards the patient picked up rapidly. She took food freely and the bowels and kidneys acted well. Some pain in the right iliac region due to the formation of an abscess which opened through the abdominal incision on the sixth day was relieved by occasional 20-minim doses of solution of morphia. The temperature, which varied between 99° and 102°, reached normal on the tenth day. The pulse after the first week rapidly declined and on the twenty-fifth day it had come down to 78.

When I saw the patient on the evening of the first day (Feb. 14th) she was evidently becoming acutely septic, as evidenced by the distended and painful abdomen, an increased pulse-rate in spite of more morphia, a temperature of 103°, diarrhœa, and the peculiar odour of breath so often associated with grave sepsis. Filling the abdomen with hot saline solution converts the peritoneal cavity for the time being into an internal hot-water bag and may in addition help to prevent adhesions. It also prevents any large secretion by the peritoneum which in one case appeared to me to be the cause of fatal collapse four hours after a laparotomy for a ruptured tubal pregnancy The eight and a half pints of saline solution with brandy injected intravenously, partly compensated for the fluid lost by hæmorrhage and diarrhœa and gave the kidneys a chance of eliminating the septic material which had been absorbed. In a similar case of sepsis not complicated by hæmorrhage I intend, if by injecting a large amount of saline solution intravenously I can get a pulse of good volume, to relieve the patient of blood to the amount of a pint or more, with the object of directly reducing the poison present in the circulation. Everything used at the operation was boiled immediately before being used, with boiled saline solution for the instruments, &c. Antiseptics were not used. I consider it illogical and useless to apply antiseptic solutions in the strengths usually employed to a wound which is considered capable of union by first intention. If there had been time I should have tried to disinfect the skin with ether followed by a compress of a strong antiseptic. Normal saline solution does least damage to cut tissues and corresponds fairly well to the lymph which circulates in the part. As the five-inch incision in the arm healed by first intention the abscess in the abdominal incision was probably caused by infection from within and not from without. On examining the ruptured tube the fimbriated end was found to be blocked by a partly organised and adherent blood-clot, the sequence of events probably being partial tubal abortion, blocking of the abdominal ostium by clot, increased tension within the tube, and rupture into the cavity of the peritoneum.

The interval of five years since the last pregnancy is explained by the husband's admission of the use of artificial means to prevent conception. It would be interesting to know if the above explanation is applicable to other cases of tubal pregnancy which have been recorded as following a long period of sterility. I attribute recovery to the large

[1] A paper read before the Plymouth Medical Society on March 18th, 1899.

amount of fluid injected—one and three-quarter gallons in all—which in the first place relieved shock and afterwards enabled the emunctories, especially the kidneys, to dispose of the poison, and also to the very able assistance which enabled me to complete the operation in just over the hour.

Plymouth.

THE CONTENTS OF THE STOMACH IN THE GASTRIC CRISES OF LOCOMOTOR ATAXIA:

A CLINICAL AND CHEMICAL STUDY.

BY CARSTAIRS C. DOUGLAS, M.D., B.SC. EDIN.

GASTRIC crises hold a prominent position among the visceral symptoms of locomotor ataxia and no one observing a patient suffering from them when accompanied by much vomiting can fail to be struck with the enormous quantity of fluid which is often rejected, even when the patient is taking little by the mouth. As a rule, first of all the stomach is emptied of what food it contains; then there is vomiting of a clear liquid which later may be stained with bile or occasionally with blood. Marie[1] says: "There is vomiting, at first of food, but afterwards exclusively of slimy liquid or perhaps of a clear liquid mucous in character and more or less abundant. At times the vomited matter is coloured by bile and more rarely by blood; it may quite exceptionally present the appearance of coffee-grounds." With this general description that by Gowers agrees closely. He states that the vomiting is at first of food and then of clear liquid which may be very abundant; ultimately bile is vomited and sometimes blood. As regards detailed chemical examination of the vomited fluid there are on the whole but few reports, especially by English workers. Sahli[2] some years ago stated that he had found excessive acidity of the gastric juice in this condition, but his analysis is unreliable as he made no exact quantitative estimation but merely relied on the intensity of the colour reaction as judged by the eye. Marie quotes Rosenthal (1886) who found 0·3 per cent. of HCl during the first days of the crisis and 0·10 per cent. during the latter days, so that, taking Richet's figure of 0·174 per cent. as the normal, Rosenthal's figures show an increase in at least part of the attack. The same was found by Simonin of Lyons (1886). Hoffmann in one of his patients found the gastric juice to be secreted in excess and to contain temporarily an excess of acid. The quantity of HCl varied, often amounting to twice the normal quantity and rarely to less than the ordinary amount, and this only when owing to the abundance of the matter vomited the acid was somewhat largely diluted. The only other point in this connexion to which reference is made by Marie is that in some cases small and varying amounts of lactic acid have been found. Grasset[3] gives no details regarding the composition of the fluid, while Möbius[4] considers hyperacidity to be the exception in these cases and that the amount of acid is usually small.

In a recent paper Michell Clarke[5] gives a good account of the stomach contents in a patient suffering from early tabes both between and during the crises. The chief points as regards the chemistry are: 1. In the intervals gastric digestion was rapidly performed and there was excess of HCl during the process (sometimes 0·4 per cent.), whereas in the intervals between meals there was no evidence of secretion of HCl. 2. During the whole duration of the gastric crises free HCl was absent from the stomach contents altogether while lactic acid was abundantly present. In his analyses, however, no exact quantitative estimation of the different acids was made, the result being simply deduced from the amount of dilution which the fluids would stand while still exhibiting the colour reaction for the given acid. In Dr. Michell Clarke's case, as in the one which I am about to describe, there was marked hæmatemesis. In drawing any conclusions as to the presence of hyperacidity it must be remembered that the amount of acid secreted may vary, according to Verhaagen,[6] considerably even in health. He found that there might be variations of one per mille, 1·5 per mille, and even two per mille, the acidity from two to two and a half hours after a test meal ranging from 3 to 4·8 per mille. As regards lactic acid our latest knowledge of the gastric chemistry shows that it may occur in the fluid rejected in locomotor ataxia as in any other condition provided the stomach is emptied within an hour of eating and provided the last meal contained at least some carbohydrate. Here it is formed as a result of bacterial action upon maltose taking place within the stomach. This formation of lactic acid, which is quite physiological, ceases with the secretion of HCl and the lactic acid appears to be absorbed—at all events, it disappears from the stomach. Various observers, however, have found, as I myself did, that lactic acid may be present during gastric crises hours after food has been ingested and subsequently vomited. In the absence of dilatation of the stomach it is difficult to explain this, as recent observations point to the fact that when HCl is not secreted lactic acid does not take its place.[7]

Having recently had the opportunity, through the kindness of Dr. James Finlayson, to whom I desire to express my obligation, of studying the gastric crises in a case of early tabes where much hæmatemesis occurred I made a number of analyses of the stomach contents which I shall give in detail after a short account of the general features of the case.

A man, aged 27 years, was admitted to the Western Infirmary, Glasgow, on Oct. 14th, 1898, under the care of Dr. Finlayson, complaining of sickness and vomiting and weakness of the legs. The history of the patient's illness is taken in part from the ward journal. Eighteen months previously he had noticed some weakness of the legs and unsteadiness on going downstairs or when he was in the dark. Six months later girdle pain was experienced, but only for a fortnight. At the same time attacks of vomiting began. When the attacks were about to come on he had a feeling of nausea and uneasiness in the epigastric region; also great restlessness, so that he always tossed about in bed. When vomiting began he first rejected any food that was in the stomach and as emesis proceeded he brought up mucus mixed with blood and bile. The vomiting had no special relation to food either as regards the nature of the latter or the time of ingestion. The attacks occurred at first every fortnight but latterly every two or three days and might last from one hour to a couple of days. Eructations occasionally occurred before the attacks but as a rule the latter began suddenly. For nine months he had had some bladder trouble and a tendency to constipation. As regards his previous health, he had had gonorrhœa but not syphilis, nor was there any history of any stomach disturbance or of any gastric symptoms in the past. He was temperate in the use of alcohol. As regards his state on admission, the patient was pale, ricketty, and undersized, but fairly well nourished. His weight was 7 st. 7 lb. As to his nervous system it may be briefly stated that there was some impairment of the tactile and temperature sense in the toes and in an area extending from the umbilicus to the fifth rib. Romberg's sign was well marked; the superficial reflexes were present and were normal; the patellar reflexes were absent. The pupils were equal and medium in size; the Argyll-Robertson phenomenon was present; ptosis existed and was most marked on the left side; the fundus was normal. Examination of the blood between the attacks gave 5,500,000 red cells and 9000 leucocytes per cubic millimetre, 80 per cent. of hæmoglobin, and a specific gravity of 1060. The urine was clear, amber-coloured, and acid, and its specific gravity was 1026; no albumin, sugar, blood, bile, or albumoses were present; occasionally it was neutral or alkaline even apart from the attacks, and it then showed a deposit of pus and ammonio-magnesium phosphate. As regards the alimentary system the patient after admission exhibited marked ptyalism, sometimes rejecting from a pint to a pint and a half of colourless, slightly

[1] Lectures on Diseases of the Spinal Cord, 1892, p. 266.

[2] Ueber das Vorkommen abnormer Menge freier Salzsäure bei den Gastrischen Krisen eines Tabetikers, Correspondenzblatt für Schweizerische Aerzte, 1885, No. xv., S. 105.

[3] Traité pratique des Maladies du Système Nerveux, Paris, 1894, quatrième édition, p. 513.

[4] Twentieth Century Practice of Medicine, 1897, vol. xi., p. 837.

[5] A Contribution to the Clinical Study of the Gastric Juice, Brit. Med. Jour., vol. ii., 1898, p. 1867.

[6] La Physiologie et Pathologie de la Sécrétion Gastrique, Paris, 1898, p. 9.

[7] Schäfer: Text-book of Physiology, vol. i., 1898, p. 358.

opalescent, thin mucoid fluid which readily rendered starch-paste soluble even at room temperature and converted it into maltose and dextrin. It also faintly gave the reaction for sulphocyanide of potassium. The salivation went on during sleep; it was always less at the end of the gastric crises. The patient did not swallow much saliva when sick. Crises took place after admission every three days from Oct. 14th till Nov. 8th. There was then an interval till Nov. 18th to 20th and after this the patient had a period of immunity lasting from Nov. 20th to Dec. 23rd (four and a half weeks). There was then another short attack which was repeated on Jan. 10th and Feb. 3rd, 1899, and so on. The general features of the crises were the same as before admission. Blood occurred frequently in the vomited matter, sometimes at the beginning and sometimes at the end of the attack. On several occasions it was very plentiful, amounting to about a pint. In colour it did not present the ordinary coffee-ground appearance, but was generally of a deep-red or plum colour. Apart from the crises the patient had no indigestion and physical examination revealed no abnormality in the stomach. When the crises came on the abdomen seemed to bulge and after they ceased it subsided again. The bowels at these times were usually costive and irregular. During the attacks the urine became neutral or alkaline and tended to deposit phosphates.

While the patient was in hospital I made a number of careful examinations of the contents of the stomach, the results of some of which will be found in the accompanying tables.

Nothing in Table I. suggests the least defect in digestive power. As a matter of fact digestion always appeared to proceed evenly and rapidly, and, as noted above, on two occasions the stomach was found to be quite empty at from two to two and a half hours after a plentiful test dinner. On one occasion the total acidity was somewhat high (0·39 per cent.) without any obvious cause. (Table II.)

In Tables III. and IV. are shown the results of some examinations made when the attacks were present. It will be seen from Table III. that on no occasion did the gastric contents exhibit any hyperacidity, the highest figure obtained being 0·3 per cent. which included free and combined HCl, a trace of lactic acid, and the acid salts. Free HCl itself was generally absent. There is no indication that the total acidity diminished as the crises continued, as will be gathered from analyses 2, 3, 5, and 6, where on consecutive days the acidity was found to have slightly increased though it never rose above normal. Traces of lactic acid were present on three occasions and as a rule peptones were found in the fluid. On all occasions save one blood formed a large part of the vomited matter; on several occasions it was very copious and was generally deep-red or plum-coloured in hue.

TABLE I.—*Examination of the Contents of the Stomach removed by Stomach-tube during Intervals of Freedom from the Attacks. In all cases the lavage was performed after a test dinner.*

—	No. 1. One and a half hours after test meal.	No. 2. Two and a half hours after test meal.	No. 3. Two hours after test meal.*	No. 4. Two hours after test meal.
Reaction	Acid to litmus and to Congo red.	Some amount of fluid, neutral to litmus and negative to Congo red.	—	Acid to litmus and to Congo red.
Total acidity ...	0·292 per cent.	—	—	0·39 per cent.
Free HCl ...	Present (scanty).	Contained no HCl or peptones or sugar.	—	Present (scanty).
Lactic acid ...	Faint trace.	—	—	Absent.
Volatile organic acids	Absent.	—	—	Absent.
Peptones... ...	Present.	Pepsin present and active in acid solution.	—	Present.
Sugar	,,	—	—	,,
Starch	,,	—	—	,,
Blood	Absent.	—	—	Absent.
Bile	,,	—	—	,,
Pepsin	Present and active.	—	—	Present and active.

* Stomach found to be perfectly empty.

TABLE II.—*Detailed Analysis of Total Acidity on Two Occasions during Intervals between the Attacks.*

1. Total acidity = 0·292 per cent.

0·216 = combined HCl + trace of lactic acid.
0·022 = free HCl.
0·054 = acid salts.
0·292

2. Total acidity = 0·39 per cent.

0·253 = combined HCl.
0·045 = free HCl.
0·092 = acid salts.
0·390

No organic acids were present.

TABLE III.—*General Analyses of Fluid Rejected during the Gastric Crises.*

—	No. 1.—Oct. 17th.	No. 2.—Nov. 14th.	No. 3.—Nov. 15th.	No. 4.—Nov. 22nd.	No. 5.—Dec. 23rd.	No. 6.—Dec. 24th.
Reaction	Acid to litmus, faintly to Congo red.	Acid to litmus, negative to Congo red.	Acid to litmus and to Congo red.	Acid to litmus, faintly to Congo red.	Faintly acid to litmus, negative to Congo red.	Acid to litmus, faintly to Congo red.
Total acidity ...	0·30 per cent.	0·211 per cent.	0·233 per cent.	0·262 per cent.	0·109 per cent.	0·233 per cent.
Free HCl	Present (scanty).	Absent.	Present (scanty).	Absent.	Absent.	Absent.
Lactic acid	Trace.	,,	Absent.	Traces.	,,	Trace.
Volatile organic acid	Absent.	,,	,,	,, (?)	,,	Absent.
Peptones	Present.	Present.	Present.	Present.	,,	Present.
Sugar	,,	,,	,,	,,	Traces.	,,
Starch	,,	Absent.	,,	Traces.	Absent.	Absent.
Blood	,,	Abundant.	,,	Absent.	Abundant.	Abundant.
Bile...	,,	Present.	,,	,,	Present.	Present.
Pepsin	Present and active.	Present and active.	Present and active.	Inactive.	—	—

TABLE IV.—*Detailed Analyses of Total Acidity during the Crises.*

1. Total acidity = 0·109 per cent.

0·036 = combined HCl.
0·073 = acid salts.
0·109
There was no free HCl, volatile, or lactic acid.

2. Total acidity = 0·233 per cent.

0·124 = combined HCl + trace of lactic acid.
0·109 = acid salts.
0·233
There was no free HCl.

3. Total acidity = 0·219 per cent.

0·149 = combined HCl + trace of organic acid.
0·070 = acid salts.
0·219
There was no free HCl.

4. Total acidity = 0·215 per cent.

0·146 = combined HCl.
0·069 = acid salts.
0·215
There was no free HCl or organic salts.

These detailed analyses indicate that on no occasion was there any hyperacidity and particularly no hyperchlorhydria, the highest figure for combined HCl being 0·149 per cent., which included also a trace of organic acid. The greater part of the total acidity was composed of this combined acid, the remainder being due mainly to acid salts.

The conclusions which we are entitled to draw from the study of this case are: (1) that during the crises the stomach secreted a large quantity of digestive fluid, inferior

in but slight degree to that poured out during health; (2) that there was no indication that this secretion was associated either with hyperacidity or hyperchlorhydria; and (3) that apart from the presence of blood there was nothing in the fluid indicative of a true lesion of the stomach.

It has sometimes been suggested in cases like this, where there was abundant vomiting of blood, that we might be dealing with an ulcer of the stomach—an ulcer of the same type and significance as the perforating ulcer of the foot. But it seems to me that, in this case at least, such a hypothesis is untenable and in other reported cases it appears equally wanting in proof. It could hardly be expected that an ulcer which bled freely every two or three weeks would not leave some trace of its presence in the shape of disordered digestion, pain, or other symptom between the attacks. But it has been pointed out that this patient enjoyed excellent gastric health between the crises, exhibiting no trace of stomach lesion on careful physical examination, and digesting so rapidly and perfectly that it was not possible to find any trace of a test dinner two and a half hours after its ingestion. It is quite possible that in such cases the source of the bleeding lies in engorged or varicose veins around the cardiac end of the œsophagus.

Glasgow.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

HALLUX VALGUS AND HAMMER TOE.

BY W. J. COLLINS, B.SC., M.S., M.D. LOND., F.R.C.S. ENG.,
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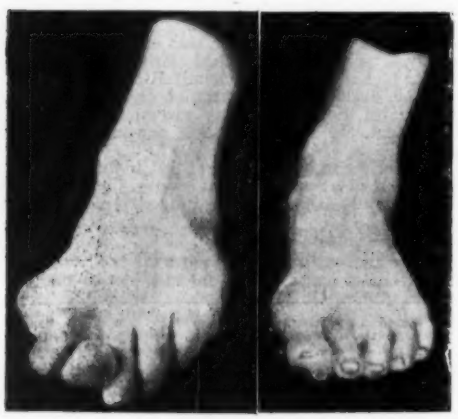
AMONG the minor deformities the pathology of which is obscure and the treatment of which has varied from elaborate trifling to unduly mutilative heroism is hallux valgus with the closely allied hammer toe. Congenital causation, ligamentous contracture, tendinous abbreviation, and external pressure have each and all been invoked to explain this inartistic and most discomforting deformity. Treatment has, of course, varied according to the view entertained as to the general or particular cause, and even recent works recommend amputation in despair of securing success by any less radical procedure. It is curious that the "valgus" tendency in the toes should be almost the exclusive prerogative of the hallux. The support afforded by the other toes might have been thought to operate in the direction of resisting such deviation. But, as in the case illustrated above, it will be seen that so strong was the valgus impulse that the coincident deformity of a hammer second toe afforded no obstacle. Similarly it is the second digit which most frequently, though not exclusively, exhibits the "hammer" deformity. Doubtless the free mobility of the metatarso-phalangeal and inter-phalangeal joints, partaking of the nature of a universal and not only of a ginglymus movement, readily lends itself to extrinsic pressure. Any deviation from the normal line once started would tend to be stereotyped by intrinsic assistance. Thus the insertion of the innermost tendon of the extensor brevis digitorum into the base of the first phalanx of the big toe and the diagonal direction of its pull would coöperate in a valgus deviation. Similarly the second toe alone has inserted into the base of its first phalanx the tendons of two dorsal interosseous muscles. Here the malleus deformity once started would be assisted by muscular action and ligamentous shortenings would tend to perpetuate and to fix a dislocation in the first instance intermittent and reducible. The good result of aseptic excision of the heads of the proximal bones without division of any tendons is well shown by Figs. 1 and 2 reproduced from photographs taken before and after operation. The case was one of combined hallux valgus and hammer toe in a woman, aged 36 years. I operated on March 9th of this year, on the 18th the splints were left off, and on the 23rd the patient was discharged, walking well without pain and the toes in perfect position and naturally mobile.

FIG. 1. FIG. 2.



Hallux valgus and hammer toe. Before operation. After resection of joints.

Albert-terrace, N.W.

NOTES ON SOME CASES ILLUSTRATING THE ADVANTAGES OF PARTIAL CHLOROFORM ANÆSTHESIA.

BY LIEUTENANT-COLONEL E. LAWRIE, M.B. EDIN., I.M.S.,
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CASE 1.—The patient was a male native, aged 31 years. The operation took place on Jan. 14th, 1899. Food had last been taken at 7 P.M. on the previous day. The operation was the aspiration of an abscess of the liver. Mr. Salar Musood, a third-year student, was the chloroformist. The administration commenced in one drachm doses at—

H.	M.	S.	
9	24	0	Natural regular breathing; blowing into the cap.
9	25	0	Chloroform added to the cap; two breaths of air.
9	25	40	Unconscious; needle inserted; the patient shouted and struggled a little.
9	26	10	Pus was flowing; seven ounces were withdrawn.
9	26	57	The needle was removed.
9	28	7	The patient walked to bed.

The total duration of the operation was four minutes and seven seconds and the amount of chloroform employed was two drachms.

CASE 2.—The patient, a male native, aged 45 years, had last taken food at 6 A.M. on the day of the operation (Jan. 14th, 1899). This operation also was the aspiration of an abscess of the liver and the chloroformist was Mr. Salar Musood. The administration commenced at—

H.	M.	S.	
9	30	15	Blowing regularly into the cap.
9	31	30	Chloroform added; one breath of air taken.
9	31	50	Unconscious.
9	32	0	Needle inserted.
9	32	16	Pus was flowing; 10 ounces were evacuated.
9	33	13	The needle was withdrawn.
9	34	8	The patient walked to bed.

The operation lasted for three minutes and 53 seconds. The amount of chloroform employed was two drachms.

CASE 3.—A male native, aged 25 years, who had last taken food at 8 A.M. was operated upon on Jan. 14th, 1899, the operation being, as in the two former cases, one of aspiration of an abscess of the liver. Mr. Salar Musood

again acted as chloroformist. The administration commenced at—

H.	M.	S.	
9	35	26	Holding breath and irregular blowing.
9	36	5	Regular breathing.
9	36	30	Chloroform added; two breaths of air taken.
9	37	12	The needle was inserted.
9	37	50	Pus was flowing; half an ounce was removed.
9	38	15	The needle was withdrawn.
9	38	56	The patient walked to bed.

The total time taken up by the operation was three minutes and 30 seconds and the total amount of chloroform employed was two drachms.

The three operations were performed under partial anæsthesia with chloroform—merely giving the anæsthetic until the patient was unconscious—in 14 minutes and 56 seconds. There was no hurry about any of the cases, which were brought in in the course of the ordinary morning's work. The advantages of the partial administration are that it saves a lot of time and saves chloroform, that there is no sickness afterwards, and that there is no possibility of danger provided that the chloroform is given with the same care as regards the respiration as when complete anæsthesia is produced. Sometimes there is a little struggling, but if this is found to be inconvenient the patient can be "put over" or the administration can be stopped and consciousness can be restored.

Afzulgunj Hospital, Hyderabad, Deccan.

A CASE OF ADENITIS IN AN INFANT; OPERATION; RECOVERY.

BY ALLAN C. PARSONS, M.R.C.S. ENG., L.R.C.P. LOND.,
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IN connexion with the correspondence as to adenoid growths in young children which has recently taken place in the columns of THE LANCET I have thought that the following case might be worth recording.

The patient, a female infant, aged two years, was brought to the Victoria Hospital for Sick Children, Chelsea, on Jan. 1st, 1899, by her father, who gave the following history of the case. Three days previously, while playing in a room with her sister, the child fell on to the back of her head. Since then she had vomited three times, had taken little or no food, and had seemed altogether ill. When seen at the hospital the patient seemed to be in a dazed condition. There was no rise of temperature, and nothing very definite could be made out to account for the illness. There was no evidence of any injury to the head or to the neck, but the head hung forward on to the chest and the child made no effort to keep it erect. Rotatory movements could be performed in a normal manner. The child was admitted for further observation and while in the hospital the symptoms at first seemed to point to some meningeal trouble. She lay in bed with her legs drawn up. On the second day there was marked retraction of the head and she was very peevish and irritable. Constipation was present but there was no vomiting until the fifth day. There was a slight, irregular pyrexia. The pulse was small and weak but it never exceeded 140 per minute. The respiratory movements were chiefly carried out by the abdominal muscles and the mouth was kept open. No dyspnœa was present. The chest and the abdomen were apparently normal. About the fifth day retraction passed off and the patient became somewhat drowsy and apathetic, and great difficulty was now experienced in feeding her for she seemed unable to swallow any fluids. An examination of the throat and naso-pharynx excluded the possibility of any post-pharyngeal suppuration. The tonsils were both a good deal swollen, the glands behind the jaw were enlarged, and the naso-pharynx was stuffed with adenoids. Nasal feeding was adopted, but it set up an intense catarrh of the nasal and pharyngeal mucous membrane and a thin muco-purulent secretion was constantly trickling from the mouth and nose. The mouth had to be swabbed out every half an hour or so and the towels had to be frequently changed. These symptoms went on for three or four days until they gradually yielded to careful nursing, together with the employment of emetic doses of ipecacuanha and the application of towels soaked with eucalyptus. The child began to take her food better, but was still very weak and listless. Solution of strychnia in half-minim doses every four hours was ordered. The acute symptoms having passed off the child was prepared for operation and anæsthetised with chloroform. The tonsils had considerably diminished in size, but a portion of the right tonsil was removed and the adenoids were carefully scraped away with the smallest size ring knife. The operation had a very marked effect, both on the local condition and on the general behaviour of the child. The discharge completely stopped, swallowing was no longer difficult, and the mouth was kept closed during respiration. The improvement in the general condition was even more pronounced. The child sat up in bed for the first time since admission, her head was held erect, she "talked" with the nurses and played with her toys, and seemed altogether a different being. The patient was discharged on Jan. 25th in perfect health.

Chelsea.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KASR-EL-AINI HOSPITAL, CAIRO.

A CASE OF SARCOMA OF THE OVARY WITH GENERAL SARCOMATOSIS OF THE PERITONEUM; NECROPSY.

(Under the care of Dr. FRANK COLE MADDEN.)

THE peculiar property possessed by malignant growths in the peritoneal cavity of infecting distant parts of the peritoneal membrane is strikingly illustrated by the case which follows. In some instances when the original tumour has been situated in the upper part of the cavity the secondary nodules have all developed in the pelvis or its neighbourhood, and this peculiarity in the localisation of the metastatic tumours is probably to be explained by the influence of gravity in bringing detached portions of the original growth to the lowest part of the abdomen. Still more remarkable are cases, by no means rare, in which a sarcomatous nodule on a piece of bowel has given rise to a similar mass on the neighbouring coil or the abdominal wall with which it has been usually in contact. In all these cases we must postulate a direct transference of at least one of the original malignant cells. The chance of this "peritoneal generalisation" of the growth markedly impairs the prognosis in cases of malignant disease of the abdominal or pelvic organs.

An old Egyptian woman was on Feb. 17th, 1899, admitted into the medical wards of the Kasr-el-Aini Hospital, Cairo, for ascites. As Dr. Sandwith did not consider that there was sufficient evidence of disease of the heart or kidneys to account for her condition he asked Dr. Madden to see the case with a view to perform an exploratory incision. On examination the patient was found to be extremely emaciated and in considerable respiratory distress owing to an enormously distended abdomen. She had a distinctly "ovarian look"—if the expression may be used—and the abdominal cavity was full of fluid, indistinctly through which a "lumpiness" could be felt just at the upper part of the left iliac fossa. There was slight tenderness in this situation. By the vagina a hard mass was felt bulging into the posterior fornix high up and to the left side. This seemed to correspond with the resistance felt on abdominal palpation. The size of the uterus could not be made out.

On the following day (Feb. 18th), under an anæsthetic, an incision was made in the middle line of the abdomen below the umbilicus and a large quantity of clear fluid was

evacuated. In the left iliac fossa, just above the brim of the pelvis, a hard mass was seen and felt, consisting apparently of a collection of tense cysts. It was firmly adherent all round and the Fallopian tube was attached to its upper border. Some of the adhesions at the side were broken down with the finger and a definite capsule was opened, from which a tumour of the size of a kidney was easily shelled out. The greater part of the capsule was removed together with the Fallopian tube. The ovary on the right side was cystic and adherent and was also removed. During the operation a hard mass was felt running across the abdomen just above the umbilicus, apparently continuous with the spleen and extending into the right side of the abdomen. A few suspicious nodules were seen on a coil of intestine which came into view during the latter part of the operation. The abdominal wound was closed with silkworm gut sutures, a glass drainage-tube being placed in the left side of the pelvic cavity. The patient never rallied from the operation and died the next day. On examining the mass which had been removed it was found to be fairly hard throughout, but several rounded elastic lumps were felt on the surface in various parts. On cutting into it its consistence was firmly elastic and fleshy, not unlike muscular tissue, and several rounded masses were distributed throughout this fleshy matrix.

Necropsy.—On post-mortem examination by Dr. Symmers there was found to be some thickening of the aortic valves as well as marked atheroma of the first part of the aorta, which was considerably dilated. There was an intense inflammation of the pelvic peritoneum. The parietal peritoneum throughout the abdomen was studded with a great number of small raised sarcomatous nodules (about one-sixth of an inch in diameter on an average). Many of the patches contained a jet black pigment. The visceral peritoneum was thickly covered with similar nodules, none of which, however, contained pigment. The eruption was especially well marked on the stomach, both on the anterior and posterior surfaces, and throughout the mesentery. The omentum was retracted and rolled up along the lower border of the stomach into a mass about two inches thick, which was extremely hard and extended nearly right across the abdomen. Scattered throughout this mass were a number of small rounded tumours. The other organs were normal but the liver was covered with shaggy lymph around the portal fissure. On subsequent microscopical examination the tumour was found to be a large round-celled sarcoma. No trace of ovarian tissue was found.

Remarks by Dr. MADDEN.—Had the presence of these nodules on the peritoneum surrounding the intestine been discovered at an earlier stage of the operation the uselessness of operative interference would have at once been recognised. It was not, however, until the capsule of the tumour had been torn through that the nature of the "cysts" became evident. The hard omental mass was another suspicious circumstance, the importance of which should have been more appreciated. However, the interesting feature of the case is its pathology, which clearly indicates the futility of any radical operative measures in such conditions.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Prevesical Hernia.

A MEETING of this society was held on April 11th, the President, Mr. BRYANT, being in the chair.

Mr. G. H. MAKINS read a paper on Prevesical Hernia and related a case in which subacute strangulation occurred. The paper was founded on the following case. A healthy man, aged 40 years, subsequently to getting wet through, was attacked with violent pain in the right iliac fossa, attended with retching and some rise of temperature. He was found to have a reducible right inguinal hernia which was replaced without any definite influence on the symptoms. The latter, however, subsided under treatment by rest in bed, poulticing, and light diet. On resuming his ordinary mode of life three weeks later the man was attacked in a similar manner. The symptoms were again relieved by the same treatment, but tenderness persisted in the right iliac region. He was admitted into St. Thomas's Hospital under the care of Dr. H. P. Hawkins and examined under an anæsthetic, when a hard nodular tumour was discovered in the right iliac fossa extending across the hypogastric region into the left iliac fossa. An abdominal exploration performed eight weeks after the first attack revealed a subperitoneal tumour, to the upper surface of which small intestine was adherent as the result of previous peritonitis. The urinary bladder was found to be displaced backwards and to the left. The tumour was stripped out of the pelvis, a small area of peritoneum being removed with it, a continuous stalk of great omentum needing division for its complete liberation. After removal the tumour proved to be a large reniform hernial diverticulum containing adherent omentum. The sac had been removed entire with its neck. Removal of the sac, together with its neck, in no way influenced the descent of the co-existing right inguinal hernia. The patient made a rapid recovery without the occurrence of any untoward incident. Mr. Makins quoted a similar case recorded by Parise which he considered to be identical in nature with his own. Four cases of properitoneal hernia in which the internal sac projected into the vesical region were also quoted. An attempt was made to distinguish between the two "true prevesical" cases and the properitoneal, the former being regarded as herniæ into special peritoneal diverticula independent of pre-existing or subsequent inguinal herniæ, while in the latter the sac formed an integral part of the inguinal hernia. Mr. Makins considered his own case to be an instance of a hernial pouch forming in the position of a direct inguinal hernia—that is, in the middle inguinal fossa between the epigastric and obliterated hypogastric arteries, such pouch opposed in its further development by the resistance of the conjoined tendon being diverted and taking an internal course in front of the bladder in the subperitoneal space, and, further, that the prevesical sac was in all respects independent of the co-existing acquired right inguinal hernia.

Mr. JONATHAN HUTCHINSON, jun., related a similar case which had been recently under his care. The patient was a man who was quite healthy except that he had had for a long time a right inguinal rupture. This had given little trouble and had not been down for seven weeks, so that taxis or too vigorous pressure of a truss could not have been responsible for the development of symptoms which came on without obvious cause. He was seized with pain in the lower part of the abdomen and with vomiting. The pain persisted and he was admitted into the London Hospital. Mr. Hutchinson explored the inguinal region and on passing his finger through the ring found that there was fulness on the inner side of the canal. He therefore performed abdominal section within 24 hours of the onset of symptoms. He found a ring-shaped opening immediately to the right of the bladder leading into the pouch in which a loop of intestine was strangulated. On notching the ring the bowel was easily turned out. The neck of the pouch was then sutured up and the patient made a good recovery. This form of hernia must be very rare as no other case had been met with at the London Hospital during the last 15 years. He could hardly agree that true prevesical herniæ were similar in nature to retro-peritoneal herniæ independent of previously existing pouches. It was noteworthy that in all the recorded cases except one—and there the record was deficient—an ordinary hernia was known to have existed previously. If a hernia were returned *en masse* the peritoneum would be rendered lax and prone to the formation of pouches, but this could not have been the explanation in his case. Another possible explanation of the formation of pouches arose from the frequency with which the bladder was found in close contact with an inguinal sac. It was possible that by the contraction of the bladder part of the sac might be drawn out and form a pouch. Whatever the explanation of the occurrence of these rare forms of hernia the practical conclusion to be drawn from the cases was that where there were symptoms of internal obstruction and a history of previous hernia the surgeon should not hesitate to perform laparotomy and to explore other regions besides the inguinal canals.

Mr. J. F. MACREADY said that Mr. Makins had spoken of the sac first as formed from independent pouches of peritoneum and afterwards as the diverted sac of a direct inguinal hernia. Both could hardly be correct, as a direct hernia could hardly be said to have a sac until it had passed through the conjoined tendon. One possible explanation

would be that a direct hernia took its usual course, but that the intraparietal portion of the sac had increased and drawn up the external portion, an explanation which was suggested long ago by Mr. John Cooper. But he was inclined to adopt Mr. Makins's view that the hernia was due to pouches or crypts which were supposed by Rokitansky to be due to irregularities in development of the peritoneum. If the mouth of one of these crypts was large enough to allow of the entrance of a portion of omentum it might reach a very large size, as in the case of the jejuno-duodenal fossa.

Mr. MCADAM ECCLES said that if a patient had a direct inguinal epiplocele which was irreducible and violent taxis were applied the sac might be reduced and there would then be a diverticulum from the peritoneum which might be directed into the prevesical space. He did not think that this was the explanation in the cases described by Mr. Makins as there was another inguinal sac present. It was very rare to have two inguinal sacs on one side as one inguinal hernia would tend to render that part of the peritoneum tense and so prevent protrusion. He had met with a case which resembled that mentioned by Mr. Hutchinson. There was a hernia on the left side. The patient had symptoms which Mr. Eccles attributed to nipped omentum. He explored the sac and found healthy omentum. He therefore explored further and found a sac behind the os pubis containing a portion of omentum considerably congested but no intestine. He drew this out and the symptoms were relieved.

The PRESIDENT thought that the paper of Mr. Makins and the observations of Mr. Hutchinson were of the greatest importance and suggested that Mr. Hutchinson's remarks should be recorded together with the paper. One of the commonest forms of displaced hernia was that in which a rupture took place through the neck of a congenital hernia. He mentioned two cases which he had met with of hernia into the prevesical space. The first occurred in a patient who had a congenital hernia on the right side, for which he had worn a truss and which he used to replace himself when it came down. On one occasion after such reduction acute symptoms came on. When seen on the third day there was a hard tumour in front of the bladder reaching almost to the left inguinal ring and half-way up to the umbilicus. Mr. Bryant explored the hernia and passed his finger through the ring and found the opening through which the intestine had passed and he was able to draw out some inches of deeply congested but still glistening gut and the patient made an excellent recovery. In the second case there was a hernia through the external ring which was reducible but returned at once and there was a tense mass in front of the bladder. On exploring as in the former case Mr. Bryant was able to draw out of a prevesical sac some omentum and a loop of intestine. In this case he believed there had been rupture at the neck of the sac.

Mr. MAKINS, in reply, said that little pouches such as he referred to could often be seen in the cadaver if the anterior abdominal wall were examined from behind and the development of a hernia in them was like that in the case of the retro-cæcal fossa.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A CLINICAL meeting of this society was held on April 10th, Mr. G. R. TURNER, Vice-President, being in the chair.

Mr. W. H. BATTLE showed an infant, three months old, with a Cephalhydrocele on the right side. The swelling was on the right side of the head, a little in front of the coronal suture. It was first noticed three weeks after birth. It now measured two inches by one and a quarter inches. It was soft, fluctuating, and pulsated freely. It could be partly reduced within the skull by pressure and then the edges of the bone could be felt to be everted. Mr. Battle thought that the protrusion was probably due to injury at birth at which instrumental assistance was required.

Mr. BATTLE also showed a woman on whom he had performed Gastrostomy by the method of Albert. She was suffering from an obstruction in the œsophagus about six inches from the top. The stomach was exposed by an incision through the rectus muscle and a considerable portion of the viscus was drawn out in the shape of a cone. The peritoneal surface of the base of the cone was sutured to the parietal peritoneum and the apex of the cone was passed along beneath the subcutaneous layer of the abdominal wall and brought out through an incision about two inches higher. In this way a kind of sphincter was obtained where the viscus passed through the rectus muscle and the subcutaneous portion imitated an œsophagus. She retained food quite well when she was fed by a tube through the opening, but for some unexplained reason on several occasions when she had swallowed fluids they were rejected from the opening.

Dr. G. E. HERMAN showed a woman, aged 49 years, as a case of Cure of Recurrent Cancer of the Breast following treatment by oöphorectomy and thyroid extract. The right breast had been removed with the pectoral fascia and axillary glands by Mr. Lawson in Middlesex Hospital in May, 1895, and a local recurrence was removed in October of the same year. In April, 1896, the old wound reopened and in July, 1898, when she came under the care of Dr. Herman there was an ulcerated surface over the site of the right breast measuring three and a half inches by one and a half inches. There was a scirrhous lump three inches across in the left breast and the glands in the left axilla were enlarged. Menstruation had become irregular probably from the onset of the menopause. On July 12th, 1898, Dr. Herman removed both ovaries and gave the patient thyroid extract internally and had continued this treatment up to the present time. By March the ulcer had soundly healed, but there were some keloid-like nodules remaining. These, however, had not altered in size for some months. The lump in the left breast had completely disappeared though the nipple was still retracted and the axillary glands could no longer be felt. Another patient whose case he had published some time ago was perfectly well at the present time. Dr. Herman considered that the results of the combined treatment were more promising than those of treatment by oöphorectomy alone or by thyroid medication alone.—Mr. STANLEY BOYD was not quite sure that the nodules in the cicatrix were non-malignant. In the second case in which he had performed oöphorectomy there had been red patches which were rendered more prominent after handling like those in the neighbourhood of the nodules in Dr. Herman's patient, and recurrence of growth took place there. This patient was unable to take thyroid extract. Mr. Boyd was not convinced of the efficacy of thyroid treatment. The most striking case was that of Bishop and Page in which it was given to a patient for recurrent cancer for 12 months, the tumour remaining stationary. She then disappeared, but reported herself six months later when the whole of the disease had disappeared. But against this it must be remembered that Mr. Pearce Gould had published a case in which a large tumour of the femur and many disseminated nodules secondary to cancer of the breast disappeared spontaneously in a short time without any special treatment. The patient was still well. It was noteworthy that in Mr. Gould's case, as in Dr. Herman's case, the patient was about at the menopause.—Mr. BATTLE also thought that the nodules indicated that the growth was not wholly absorbed.—Mr. TURNER remarked that at any rate the lump in the left breast had disappeared. He would not like to say that the nodules were malignant. He had removed similar nodules and had found them on microscopic examination to be non-malignant.

Mr. G. R. TURNER showed a case of Ununited Fracture of the Humerus. The patient first broke his arm at sea. The fracture did not unite and an operation was performed. Still no union occurred. He then came under the care of Mr. Turner. As he was a syphilitic subject he put him first on anti-syphilitic treatment and later wired the bones. There was abundant callus but no union. He operated a second time, this time with success, and the man returned to work. At sea, however, owing to a sudden jerk he broke the bone at the same place. Mr. Turner again operated, but although a skiagram showed that the bones were in excellent position no union had resulted. There had been no suppuration at any of the operations. Mr. Turner was inclined to think that it might be worth while to excite some suppuration by passing a seton through in the old-fashioned way.—Mr. BATTLE asked what was the state of the bones at the time of the first operation. He mentioned a case of ununited fracture in which a first operation was unsuccessful but after the second anti-syphilitic treatment was given and this operation was quite successful.—Mr. TURNER, in reply, said that he did not perform the first operation. When he operated he found the fragments pointed and separated by fibrous tissue.

Mr. F. JAFFREY showed a large Pachydermatocele of the

Scalp of congenital origin in a man, aged 32 years. These cases were sometimes described as molluscum pendulum.—Mr. TURNER mentioned a case in which removal was attempted, but there was great hæmorrhage from nævoid tissue of which the tumour was partly composed. He also mentioned another case in which there was a similar molluscous growth on the buttocks which hung down to the patient's knees.

Mr. JAFFREY also showed a boy, aged 15 years, suffering from a severe Stutter. When suddenly asked a question he became very red, all the muscles of his face were contracted, and his left arm was drawn up to his mouth, so that the phenomena suggested epileptiform convulsions. There was no loss of consciousness. He had had several falls on his head and there was a depression on the left side near the vertex, but Mr. Jaffrey did not think that there was any organic lesion of the brain.—Mr. TURNER said that the lad had been under his care and he agreed that the trouble was functional in character.

OBSTETRICAL SOCIETY OF LONDON.

Puerperal Eclampsia.—Causes of Difficult Labour.—Exhibition of Specimens.

A MEETING of this society was held at 20, Hanover-square, W., on April 5th, Mr. ALBAN DORAN, President, being in the chair.

Dr. W. S. A. GRIFFITH and Dr. EDEN communicated notes of a case of Puerperal Eclampsia, with a description of a five weeks' ovum removed in a subsequent pregnancy. The patient was a married woman, aged 32 years, who suffered from eclampsia at about the seventh or eighth month of her third pregnancy. Labour was induced by Dr. Griffith with the intra-uterine bougie and she recovered. About 18 months afterwards she again became pregnant and severe symptoms ensued as early as the fifth week. Dr. Archibald Garrod reported that there was evidence in the urine of chronic nephritis and the uterus was therefore dilated by the rapid method and the ovum was removed. The symptoms thereupon rapidly disappeared but a trace of albumin persisted in the urine for some time. The ovum removed was in naked-eye appearances healthy but it showed certain microscopic changes which were described. It was shown that the fœtus had survived up to or within a very short time of the removal of the ovum; the changes described were therefore primary and were probably due either to a pre-existing unhealthy condition of the endometrium or to malnutrition following upon an unhealthy state of the maternal blood associated with chronic nephritis.—The PRESIDENT observed that a great deal had been written recently on eclampsia; the source of the disease and its treatment had been much disputed. Winkler insisted that it always arose from renal disease in the mother. Hoffmann traced it to toxæmia from carbamide of ammonium. Baron and Castaigne declared that it arose from toxic elements developed in the living fœtus, the fits often ceasing when it died; Schaller, on the other hand, seemed to have little belief in any active influence of the fœtus, denying that its kidneys ever acted before parturition. In the case under discussion the mother had nephritis and the fœtus showed diseased tissues, so it was not certain where the origin of the eclampsia lay, though most likely it lay in the mother. As for treatment, delivery seemed usually successful. Van Rootijen and Lambinon of Liege bleed in bad cases, but the great success of subcutaneous saline infusions in puerperal septicæmia and in sepsis after abdominal sections (Howard Kelly) seemed to indicate the correct treatment for eclampsia unrelieved after expulsion of the fœtus. Poncet and Vinay treated successfully a severe case of eclampsia by this method.—Dr. STABB asked Dr. Griffith whether the percentage and daily amount of urea had been estimated, this being, in his opinion, much more important than the amount of albumin and subcutaneous œdema.—Dr. AMAND ROUTH asked why Dr. Griffith had adopted the slow method of inducing premature labour by inserting a bougie instead of the more rapid and certain one of rupturing the membranes. He thought the evidence that puerperal eclampsia was due to a toxæmia was clear and that the origin of the toxin was some bio-chemical change in either the placenta or the fœtus.—Dr. LEA asked what were the severe symptoms rendering artificial abortion necessary at the fifth week of gestation. He thought that a toxæmia was perhaps the cause of the nephritis becoming so much aggravated.—Dr. GRIFFITH and Dr. EDEN replied.

Dr. R. G. MCKERRON read a communication on Antero-posterior Positions of the Head as a Cause of Difficult Labour, with notes of two cases. In the first case the patient was a woman, aged 41 years, who had had 10 full-term children; the labours had been difficult with the use of forceps. She had when seen by Dr. McKerron been attended by a midwife for over nine hours; the os had a diameter of rather more than two and a half inches, the head was above the brim, the occiput was anterior, the posterior fontanelle was one and a quarter inches from the symphysis, the sagittal suture running almost directly backwards. Traction with Simpson's forceps failed to produce any advance. The occiput was rotated with the forceps so as to bring the long diameter of the head into the oblique diameter of the pelvis; the head then passed the brim with moderate traction and the labour was concluded with ease. The child died three days later; the mother made a good recovery. The measurements of the pelvis were: interspinous, 8·75 inches; intercristal, 10·25 inches; and external conjugate, 7·1 inches. The second case was that of a woman, aged 38 years, the mother of one child, who was delivered by forceps after a protracted labour. Presentation and delivery were the same as in the first case. The child died on the third day. The subdural space was found to be distended with blood. The mother recovered. The pelvic measurements were: interspinous, 9 inches; intercristal, 10·6 inches; and external conjugate, 7·5 inches. Dr. McKerron remarked upon the rarity of this presentation.

Dr. AMAND ROUTH showed a specimen of Myxo-sarcoma of the Uterus removed by hysterectomy.

Dr. LEA showed a specimen of Hæmatosalpinx occurring in chronic salpingitis.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases and Specimens.

A CLINICAL evening of the above society was held on April 6th, Dr. H. A. CALEY being in the chair.

Mr. W. H. BATTLE showed two female patients on whom he had operated for Obstruction due to Malignant Growth of the large bowel. The first was a case of growth in the splenic flexure with the gradual onset of symptoms for a period of four weeks. The patient was aged 28 years and as there was extreme distension, so that it was impossible to bring the growth to the surface and inadvisable to prolong operation, a temporary colotomy was performed under the left ribs. An operation five weeks later of excision of the growth and artificial anus with lateral anastomosis was done most successfully. This was in September, 1898. The second patient was a woman, aged 46 years, for whom operation for obstruction was done in August, 1898, and a growth of sigmoid flexure treated by Paul's method. Subsequent attempts to get rid of the spur were painful and tedious; ultimately a lateral anastomosis had been done and the artificial anus closed. Both had regular action of the bowels and looked remarkably well.—In answer to Mr. RAYMOND JOHNSON Mr. BATTLE said that in his experience the best results in excising portions of intestine had been obtained by completely closing the ends of the bowel and then establishing a lateral anastomosis.

Dr. HERBERT TILLEY showed a case of Syringomyelia in a girl, aged 15 years, in which there was paresis of the right half of the palate, pharynx, and right vocal cord. Other points of interest were the blunting of painful and complete loss of thermal impressions all over both superior extremities and certain well-defined areas of the neck and trunk, atrophy of the small muscles of the hands, the latter being in the *main en griffe* position, moderate wasting of the flexors and extensors of the wrist, and slight nystagmical jerks of both eyes (*vide* Proceedings of the London Laryngological Society, December, 1898). A painless but severe burn on the hand and a gruffness of the voice with some difficulty of swallowing first led the patient to seek advice. The pharyngeal and laryngeal conditions have much improved during the past two months, during which time she has been taking strychnine.

Dr. HERBERT TILLEY also showed a man, aged 55 years, a preacher, who in October, 1897, caught cold, became

hoarse, and simultaneously experienced an Accumulation of and Difficulty in Expectorating his Saliva. He continued his professional duties with difficulty. Examination showed the left side of the palate, the pharynx, and the left vocal cord, the left sterno-mastoid, and the upper part of the left trapezius to be completely paralysed. At the onset the patient experienced no pain, giddiness, convulsions, or any other general symptoms beyond those due to the cold and Dr. Tilley agreed with Dr. Caley that the case was probably one of pachymeningitis involving the trunk of the spinal accessory after the cervical and spinal portions had united within the skull. There was no history of gout, syphilis, or rheumatism.

Dr. HERBERT TILLEY also showed a female, aged 31 years, with Paresis of the Left Side of the Palate, the Pharynx, and the Left Vocal Cord and the Right Side of the Tongue. In October, 1898, she suffered for two or three weeks from very severe pain on the back of the head and neck which ended in "fits," details of which cannot be obtained. In the first she did not lose consciousness but did so in a second "fit" three days later, on recovery from which she was hoarse and paralysed in the left arm and leg. The patient was in bed for five weeks and was sustained at first by nutrient enemata and the stomach pump because swallowing was impossible owing to fluids escaping through the nose. Her condition rapidly improved, the arm and leg recovering their power but the throat weakness remaining. When first seen by Dr. Tilley there were in addition to the above throat lesions slight paresis of the left lower facial muscles, protrusion of the tongue to the right side (slight), contraction of the left pupil, and a small warty-like growth on the mucous membrane of the right arytenoid cartilage. It was difficult to conceive any single lesion which would explain the above condition. Dr. Tilley remarked on the rarity of laryngeal and pharyngeal lesions in syringomyelia, the slight effect on the voice of paralysis of one vocal cord, and the way in which such cases as these upheld the experimental evidence of Horsley and Beevor that the spinal accessory nerve supplies the muscles of the palate, the pharynx (partial), and the larynx.

Mr. NOBLE SMITH showed a patient, aged 21 years, upon whom he had operated for Spasmodic Torticollis by excising a piece of the spinal accessory nerve just above its entry into the sterno-mastoid muscle. This was on the right side; he had previously operated upon the left side four years ago. Both operations had been successful and it was remarkable that on the left side (the first operation) the function of the nerve had been restored six months subsequently to its division. It had been necessary on that occasion also to divide the external branches of the second, third, and fourth cervical nerves on the right side. The patient had gradually improved in health and strength, but recently some spasms had developed in the right sterno-mastoid. He had subjected the patient to a course of special exercises and massage which had still further strengthened her, but this treatment had not relieved the spasm, so he had recently operated on the right spinal accessory. The patient had been able to be up and about six days after the operation. She was exhibited at the meeting and it was found that the right sterno-mastoid and the upper portion of the trapezius were completely paralysed, but that the patient was in no way inconvenienced by this loss of power.

Dr. LEONARD GUTHRIE in discussing the above cases referred to the regression of symptoms which had occurred in Dr. Tilley's case of syringomyelia. In 1896 he (Dr. Guthrie) had shown before the society a woman, aged 28 years, who had nystagmus, complete analgesia, and thermo-anæsthesia, with blunted tactile sensation in the whole of the left upper extremity and left side of the head, face, neck, and chest to the level of the third rib. She had also paralysis of the left side of the soft palate and of the left vocal cord. The analgesia, &c., had followed immediately a violent attack of sneezing three months previously, whilst paralysis of the spinal accessory occurred immediately after an attack of coughing two months later. In the course of about a year these symptoms had to a great extent disappeared. He attributed the sudden onset of symptoms to hæmorrhage in or near a syringomyelic cavity and their subsidence to its absorption.—The cases were also discussed by Mr. JACKSON CLARKE and the CHAIRMAN.

Dr. WILLIAM EWART exhibited the organs from a case of Extensive Calcification of an Adherent Pericardium causing Inveterate Ascites (tapped 52 times) which was attributed to hepatic cirrhosis and ineffectually treated by laparotomy and artificial production of adhesions. There was an unusual condition of the peritoneum. The patient, aged 49 years, had had rheumatic fever at the age of 18 years and twice since. There was no history of alcoholism, but she had drunk vinegar from the bottle in large quantities when a young girl. When admitted into St. George's Hospital in July, 1896, she had had swelling of the abdomen and slightly of the legs for 18 months. The diagnosis of cirrhosis was made on the strength of the predominance of ascites, of the enlargement of the liver, and of the absence of albuminuria and of any apparent heart failure, the pulse being always good and strong, though at that time pericardial friction and an apical systolic murmur were audible, which subsequently disappeared. In August, 1897, after many tappings, Mr. J. W. Haward carried out the operation devised by Drummond and Morison. The patient recovered after severe and almost fatal peritonitis. The relief as regards the ascites was purely temporary and she died from gradual exhaustion after 52 tappings in August, 1898. The pericardium was found to be universally adherent and stiffened by a layer of calcareous salts which must have precluded the contraction of the ventricles, but the auricles were not calcified and their contraction may not have been interfered with. The liver was not cirrhosed. The other abdominal viscera were healthy, but they formed together with the liver an adherent mass firmly connected with the abdominal walls and occupying the upper half of the abdomen. In the lower half which contained ascitic fluid only no bowel was visible except the descending colon. The bowel was gathered together into a spherical mass completely lined by membrane and this mass projected downwards into the upper part of the ascitic cavity which resembled a second peritoneal sac. The recurrent ascites was of interest in connexion with its cause which was not cirrhosis as suspected but cardiac obstruction. Drummond and Morison have recorded a case in which at the operation the liver was found to be free from cirrhosis, but the cause of the ascites was not made out, no post-mortem examination having been obtained. This case was similar to that described above, for the patient survived the operation 19 months and was tapped 69 times.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Pneumococcal Septicæmia.—Hodgkin's Disease.—Epithelioma of the Lip.—Tumour of the Male Breast.—Sarcoma of the Suprarenal Bodies.

A MEETING of this section was held on Feb. 24th, Dr. J. M. PURSER, the President, being in the chair.

Dr. E. J. MCWEENEY communicated a case of Pneumococcal Septicæmia with Ulcerative Endocarditis consecutive to Croupous Pneumonia. The patient, a man, aged 37 years, was admitted on Dec. 5th, 1898, to the Mater Misericordiæ Hospital with right apical pneumonia. Crisis occurred on the ninth day and it was attended with a good deal of collapse. 10 days later the patient was allowed to get up and was found to be very weak. On Jan. 1st an aortic systolic murmur developed which became very loud, the patient became prostrate and delirious, the temperature curve assumed a pyæmic type, and death ensued on Jan. 5th. On Jan. 2nd blood was taken, with strict precautions, from the finger and was inoculated by means of a pipette on several tubes of oblique glycerine agar. After 24 hours' incubation at 37° C. one of these tubes presented a few extremely minute dewdrop-like colonies which proved to consist of Fränkel's pneumococcus. The other tubes remained sterile as far as could be seen. At the necropsy (48 hours later) blood was aspirated from the right auricle into a sterile bulbed pipette and inoculated on agar tubes. Owing to the solid coagulation but little liquid could be obtained. The incubated tubes showed numerous large circular colonies like discs of porcelain (probably the bacillus coli) but also very many minute whitish colonies of the pneumococcus. A broth culture from one of them after 24 hours at 37° C. was scarcely turbid, yet one cubic centimetre injected intra-peritoneally into a rabbit caused death

in 17 hours. Pneumococci with typical capsules were in the blood of every organ examined.

Dr. J. B. COLEMAN read a communication on the subject of Hodgkin's Disease. The patient, a man, aged 50 years, had enjoyed good health up to 11 weeks before his death. He gave no history of alcoholism or of syphilis. Glandular enlargements first appeared in the left cervical and axillary regions. The spleen was easily palpable. Examination of the blood showed the hæmoglobin and the red cells to be normal; the white cells were 11,200 per cubic millimetre, 40 per cent. of them being lymphocytes; the blood contained no micro-organisms. Death occurred 11 weeks from the onset of the disease. The necropsy disclosed universal enlargement of the superficial lymphatic glands, as well as of the mediastinal, retro-peritoneal, and mesenteric glands; the spleen was greatly enlarged, and growing from its capsule as well as from that of the liver were large masses of adenoid material.—Dr. E. J. MCWEENEY said that he had received the organs in this case in a fresh state and together with Dr. Coleman had made an exhaustive bacteriological examination. A great number of tubes were inoculated, including serum of the ordinary kind and glycerine serum. Inoculation was also done on a rabbit intra-peritoneally with about two or three grammes of the lymphoid material ground up in an aseptic mortar. Examination of the rabbit a month later showed no trace of the cellular material. Nothing whatever grew upon any of the substrata. This well-marked case of Hodgkin's disease was therefore not dependent upon any micro-organism capable of being made to grow in the ordinary way. If shown the sections from the liver and kidney as a fresh case he should describe them as having the histological characters of a small round-celled sarcoma. One of the cardinal symptoms of Hodgkin's disease was absent in this case—viz., oligocythæmia rubra.

Mr. G. JAMESON JOHNSTON read the notes and exhibited microscopical sections of a case of Epithelioma of the Lip in a youth 18 years of age.—Dr. E. J. MCWEENEY considered the epitheliomatous nature of the tumour most typical.

Mr. JOHNSTON also exhibited the Left Breast of a male patient, 17 years old, containing a new growth in the left upper quadrant of about the size of a large walnut. Radiating processes of the growth extended in every direction into the gland substance; the consistence of the mass was quite firm and to naked-eye examination very like scirrhus. It had been steadily growing for three months. The whole breast and connective-tissue and glands along the pectoralis minor were removed. Microscopical examination showed the growth to be mainly fibrous tissue, with what appeared to be a few short columns of gland cells here and there.

Dr. J. MAGEE FINNY showed the Left Lung and the Right and Left Suprarenals which were the seat of Sarcoma. The patient was a man, aged 66 years, who was admitted to Sir Patrick Dun's Hospital suffering from great prostration and cough and pain in the left side. The only well-marked signs which he possessed were those of encysted left pleural effusion without displacement of the heart. His colour was very dark but without the characteristics of Addison's melasma, while the sputum was free from tubercle bacilli, as was the urine from albumin. The morbid specimens showed the left suprarenal to be converted into a mass of bloody sarcoma of the size of a goose's egg. The right suprarenal was also converted into a sarcoma of similar character, but it was of the size of a small hen's egg. The left pleura contained a quantity of bloody exudation. The centre of the lower lobe of the left lung was a mass of soft broken-down sarcoma.—Dr. E. J. MCWEENEY said that the curious thing seen in the section was the presence of enormous giant cells, entirely like the myeloid cells of bone.

SECTION OF MEDICINE.

Ulcer of the Œsophagus.—Meningitis.—Non-febrile Pneumonia.—Morphinomania.

A MEETING of this section was held on March 10th, Dr. J. W. MOORE, the President, being in the chair.

Dr. J. A. LINDSAY read notes of a case of Ulcer of the Œsophagus resulting in abscess of the posterior mediastinum, rupture into the lung, emphysema of the face and neck, and death. The patient, a male, aged 59 years, was admitted to the Royal Hospital, Belfast, suffering from abdominal pain, distension, and collapse. A few hours before admission, as the result of drinking a bottle of stout, he had been seized with severe pain in the epigastrium and had vomited. There was a history that he had suffered for some weeks from pains in the abdomen, to which he had not paid much attention. He died on the following day, 37 hours after drinking the bottle of stout and 23 hours after the first appearance of emphysema of the face and neck. Two inches above the cardiac orifice of the stomach an elongated ulcer one and a half inches long was found in the œsophageal wall. A sinus connected the ulcer with an abscess in the posterior mediastinum between the œsophagus and the aorta. This abscess had ruptured into the lung at its root and air had extravasated along the deep fascia and also along the superficial fascia of the neck. The view taken was that the ulcer in the œsophagus was probably of syphilitic origin.—Dr. FINNY, Dr. HAYES, Dr. COLEMAN, and the PRESIDENT discussed the case.

Dr. LINDSAY also read notes of a case of Probable Tuberculous Meningitis. The patient was a woman, aged 19 years, whose mother and younger sister are sufferers from phthisis at the present time. On Dec. 3rd, 1898, she complained of headache and next day the headache was more severe and vomiting set in. On Dec. 5th the temperature was 101·5° F. and the pulse was 96, weak, and regular; the pupils were sluggish; the patient was very restless and there were signs of fluid in the right pleural cavity. On the next day the patient was delirious. The temperature was 101° in the morning and 102° at night; tâche cérébrale was well-marked, the pupils were dilated and almost immobile, there was continuous vomiting and double optic neuritis, and at night she became comatose and passed all evacuations involuntarily. She, however, could swallow milk and sometimes she showed signs of slight consciousness on being spoken to in a loud voice. This condition lasted from Dec. 6th to Dec. 9th, when the coma began to abate. By Dec. 11th she was much better and thenceforward she made an uninterrupted recovery. The treatment consisted in the continuous application of cold to the head by means of Leiter's tubes and the administration of bromide and iodide of potassium, with an occasional mercurial purge.

Dr. LINDSAY also read notes of a case of Non-febrile Pneumonia. The patient was a man, aged 33 years, and he first sought advice on Oct. 13th, 1898, for headache, sickness, abdominal pain, and malaise. The temperature was 98·8° F., the pulse was 80, and the respirations were 20; there were no abnormal signs in the chest, but the tongue was very foul. On the next morning he felt better. The chest was again examined with negative results. In the afternoon he sat for some time in the dining-room and talked with friends. About 9 P.M. it was noticed that his breathing was becoming hurried. He passed a restless night. Next morning he was much worse, the respirations were 36, the temperature in the mouth and in the groin was 96·5°, and there were well-marked signs of consolidation of the right lower lobe—viz., dulness, bronchial breathing, and increased vocal fremitus. At 4 P.M. the temperature was 98° in the groin and 99° in the rectum, the respirations were 36, the pulse was 106 and very weak, and the patient was much collapsed but was quite conscious. Crepitus was now audible over a considerable portion of the right lower lobe. The sputum was rusty. Towards evening the temperature for the first time began to rise and at 8 P.M. it was 101°. Death took place at 9.30 P.M., within 24 hours of the first advent of definite pulmonary symptoms.—The PRESIDENT said that there was nothing new in the apyrexia.—Dr. COSGRAVE mentioned a case of pneumonia in which the temperature remained subnormal throughout.

Dr. H. C. DRURY read a paper on Morphinomania which was discussed by Dr. DAWSON, Dr. COSGRAVE, and the PRESIDENT.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

A meeting of this society was held on March 16th, the President, Dr. Alfred Robinson, being in the chair.—Mr. Simeon Snell exhibited the following cases: 1. Coloboma of the Iris—two cases—one extending through the choroid and the other confined to the iris. 2. Tumour of each Orbit probably extending across the septum. A stereoscopic photograph was shown. 3. Optic Atrophy (post-neuritic) after Influenza. Mr. Snell also showed the following Sections of Eyes with Tumours: (1) Three Gliomata (one an instance in which the eye first affected had been removed two years previously to the appearance of the disease in the second

eye); (2) a case of Carcinoma of the Globe apparently commencing in the cornea; and (3) five instances of Sarcoma of the Choroid—one a leuco-sarcoma in an old man, two in young men, one in a middle-aged man, and one in a middle-aged woman.—Dr. Arthur Hall showed a case of Herpes Gestationis.—Dr. Sinclair White exhibited and made remarks on the following cases: 1. A woman from whose Bladder he had removed a Cancerous Growth nine months ago. The growth was about an inch in diameter and grew round the entrance of the right ureter. It was removed through a suprapubic wound together with the entire thickness of the bladder-wall. To prevent urinary extravasation a dependent opening was made into the vagina. The resulting vesico-vaginal fistula was closed three months later. The patient was now free from recurrence, performed her vesical functions perfectly, and was much improved in health. 2. A case of Paralytic Talipes Equino-varus treated by transferring the tendon of the tibialis posticus and the outer third of the tendo Achillis to the tendon of the common extensor and the peroneus tertius muscle. The result achieved was remarkably good. The patient was a boy, aged 10 years. 3. Four cases operated on for Undescended Testicle. In each case after free division of the cremaster muscle and incision of the tunica vaginalis a silkworm-gut ligature was passed through the tunica albuginea at the lower end of the testicle and both ends of the ligature were passed through the base of the corresponding side of the scrotum and fastened to the thigh by means of strapping. 4. A woman cured of a Suppurating Pelvic Cyst which had discharged into the bladder for four years. The cyst was in the first instance opened and drained suprapubically, but as the sinus did not close it was subsequently successfully dealt with by drainage into the roof of the vagina. 5. Cases of Excision of the Knee and Ankle. 6. Cases illustrative of Diseases of the Nose.—Mr. Pye-Smith read notes of a case of Traumatic Dislocation of the Hip on to the Dorsum Ilii in a boy, aged five years. It had been produced by a fall during a scuffle with another boy and was easily reduced by manipulation under chloroform.—Mr. Pye-Smith also showed a Sequestrum of Bone forming the nucleus of a vesical calculus removed by median lithotomy from a man who had sustained a fracture of the pelvis from a crush in a coal-mine two years previously. The sequestrum had probably entered the bladder about a month before its removal.—The President, Dr. Keeling, Dr. Wilkinson, Mr. Pye-Smith, Dr. Sinclair White, Dr. Addison, Mr. Dale James, and Dr. Hargreaves made remarks.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 21st, the President, Dr. J. B. Berry, being in the chair.—Dr. Crowley gave a Microscopical Demonstration.—Dr. J. B. Hall showed a number of Photographs and Casts of surgical cases and gave brief descriptions in each case.—Dr. Lodge read notes on a case of High Myopia in which a satisfactory result had been obtained by removal of the lens. The patient was shown.—Mr. Horrocks read notes on a case of Simple Stricture of the Rectum which had been satisfactorily treated by a simple operative measure. Mr. Horrocks said that the kind of stricture which he had in mind was one within easy reach of the anus and varied in depth from a simple narrow band running round the gut to an annular stricture an inch in depth. After discussing various theories as to the origin of this affection Mr. Horrocks remarked that it was more common in women than in men and that it frequently became very narrow before patients presented themselves for treatment. Their condition in consequence was one of great discomfort and the patient whose case he was bringing before the society became insane. Treatment by the passage of bougies was very painful and did not hold out the prospect of cure. Forcible dilatation was unscientific and dangerous in that the bowel might be torn up to the peritoneal reflection and that cavity become infected. The patient was a woman, 53 years of age, who had suffered from rectal trouble for 20 years. She had bougies passed 15 years before with some temporary relief. Her condition had gradually become worse and her mind was constantly occupied with the rectal trouble. On examination there was a stricture an inch within the anus which barely admitted the index finger. The stricture was about a quarter of an inch in depth and the mucous membrane was fixed at the narrowed spot, but above it was loose and healthy. No scars were seen on the pudendum or around the anus. On June 10th, 1898, the patient was put under E.C. mixture. The anus was thoroughly stretched and the stricture was brought into view. A vertical incision was made one and a half inches long through the posterior part of the stricture; with the fingers the stricture was stretched till this vertical cut became transverse. The mucous membrane was then held in position and stitched with chromic gut sutures. After the operation the narrowed part readily admitted three fingers. The patient did well and the bowels were relieved freely and regularly, but she could not be persuaded that the stricture did not still exist. Subsequently she became an inmate of Menston Asylum. Mr. Horrocks remarked that the operation was suggested by the procedure of pyloroplasty for non-malignant stricture, which was exactly similar in principle. He also remarked that it was necessary for the success of the operation that the mucous membrane above the stricture should be healthy or, at any rate, that it should be possible to free it from the subjacent tissues. He said that in a second case which he had treated by this method it had been necessary to thus free the mucous membrane before the vertical incision could be converted into a transverse one.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—An ordinary meeting of this society was held in the society's rooms at the West London Hospital on April 7th, Dr. S. D. Clippingdale, President, being in the chair.—Dr. S. T. Pruen (Cheltenham) read a paper on Recent Advances in the Treatment of Tuberculosis. He commenced by giving the statistics of tuberculosis. Of every eight deaths from all causes one was from tuberculosis. Of every 10 deaths one was from phthisis. He then discussed the transmissibility from man to the lower animals and *vice versâ* and gave instances to show that tuberculous infection could pass not only between man and mammals but also between man and birds or even fishes. He showed that a great reduction of the mortality amongst infants could be brought about by the sterilisation of their food. Turning next to pulmonary tuberculosis in adults he described his visits to the various sanatoria in England and on the Continent and especially described the treatment at Nordrach, in the Black Forest, where great attention was paid not only to the question of a proper supply of air night and day but to over-feeding, to regulated exercise, to proper rest, and to isolation from the cares and pleasures of the outside world. Dr. Pruen then showed a book written in 1840 by an Englishman named Bodington of Sutton Coldfield, near Birmingham, who had invented and carried out in practice a cure for phthisis very like that at Nordrach. This cure was very successful and one of the patients who, when she came under his care, was in the third stage of phthisis he described as being quite well three years later and who, Dr. Pruen added, was still quite well although it was now 63 years since she underwent the cure. This cure, although it was successful, was known by Bodington's medical comperes as the "beefsteak-and-porter cure," and so much ridicule was thrown upon it that the profession as a whole were afraid to take it up, with the result that Germany had now the credit of discovering it although an Englishman was really first in the field.—The paper was discussed by Dr. Gardner (Bournemouth), Dr. F. R. Walters, and the President.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on April 7th, the President, Mr. D. H. Goodsall, being in the chair.—Dr. Arthur Davies showed a specimen of Ulcerative Endocarditis from a man, aged 48 years, who had variola at 20 years and articular rheumatism at 15 and 25 years respectively. For nearly 12 months he had suffered from dyspnœa, cough, palpitation, vertigo, crural œdema, and disturbed sleep. He had a purpuric eruption on the legs which faded and later a fresh eruption on the hands. In the last five weeks there was pyrexia which on four or five nights reached 38·3° C. Post mortem the pericardium was adherent throughout but not much thickened. The heart weighed 840 grammes, the aortic valves, which were incompetent, were considerably thickened and ulcerated, while on the posterior cusps were vegetations. The adjacent part of the left ventricle was superficially ulcerated. Just beyond the anterior aortic cusp there was a perforation through the two inner coats. The mitral orifice was contracted; the mitral ring was much thickened and the auricular surface of the aortic curtain had commencing ulceration. The liver was enlarged and of

nutmeg appearance. The spleen was enlarged and had one recent infarct and scars of old ones.—The President read an exhaustive paper on Internal Hæmorrhoids and illustrated it by photographs. He said that the incidence of that state was three times greater in males than in females and that 76 cases occurred among the sedentary to 20 in the active, and the most frequent times of developing were the fourth and fifth decades. The most potent causal factor was constipation, but enlarged prostate, vesical calculus, urethral stricture, and diarrhœa were also operative and heredity played its part. He reviewed the various operations for their cure and decided in favour of Salmon's. If recurrent hæmorrhage followed he plugged with a hollow vulcanite tube and pushed along outside this plain or styptic wool into the bowel, leaving it *in situ* 48 hours.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on March 10th, Mr. H. Nazeby Harrington, President, being in the chair.—A discussion on Instrumental Midwifery was introduced by Dr. E. Brien. After tracing the history of the forceps he touched upon the mechanism of labour and then went on to the cases in which forceps were indicated, describing the actions and the different applications of the instrument. After comparing the English and Continental methods he discussed the operation in a general way and called attention particularly to the advantages of axis traction forceps over ordinary ones.—A discussion followed and Dr. Brien replied.—Dr. Sydney Marsden read a paper on the Pathology and Treatment of Ringworm. He dwelt on the known pathological lesions caused by the fungus of tinea tonsurans, &c., and referred to the researches of Macfadyen, Bitter, Fermi, Lauder Brunton, Rosenbach, and Sabouraud, also to the work of Gruby carried out in 1842–44, and finally to the researches of Macfadyen and Blaxall and Leslie Roberts of Liverpool, and then passed on to suggestions for treatment. In conclusion he said: "The object of this short paper is chiefly to bring before you the disease in connexion with its high infectivity and the desirability of some steps being taken to have the disease notified to the medical officer of health. Ringworm of the scalp is excessively frequent in this country. It is a standing cause of nuisance and difficulty in our elementary and other schools and not infrequently leads to a child's temporary exclusion for weeks or months and may interfere seriously with his life prospect. And it is here that the importance of notification and *control* will be seen and would be of great value. On these grounds therefore I advocate its notification."—An interesting discussion followed, in which the following members took part—viz., Mr. Stansfield, Dr. Temple, Dr. Brien, and Dr. A. C. Harris.—Dr. Marsden replied.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The sixth meeting of the forty-third session of this society was held at the Royal Kent Dispensary on April 7th. The President, Dr. Morgan Dockrell, occupied the chair.—Dr. Heron introduced a discussion on Tuberculosis, with special reference to Treatment. He dealt first with the different ways in which tuberculosis was spread and then he referred to the methods of preventing it. He next discussed the different methods of treatment such as seropathy, tuberculin, and the open-air treatment which he declared was not new but very old.—Mr. Ernest Clark read a short paper on Tuberculous Disease in the Eye and Mr. Mayo Collier discussed Tuberculosis as it was found in the larynx, the pharynx, and the nose. He pointed out the diagnostic marks between tuberculous and syphilitic abscess of the throat.—The President having read a paper on Tuberculosis of the Skin the discussion was adjourned.

MAGISTRATES AND LUNACY CERTIFICATES.—An inquest was held in Exeter on April 1st upon the body of a woman, aged 46 years, who according to medical evidence had died from the effects of an irritant poison on March 29th. The deceased who had previously been in an asylum was examined on Feb. 1st by Dr. Mackeith who certified that she was of unsound mind, but a magistrate who visited her subsequently refused to give a certificate and consequently she was not removed to an asylum. The coroner remarked that the magistrate was very unwise to have acted in the way he had done. The jury returned a verdict of "Death from poisoning" and expressed the opinion that the magistrate was wrong in refusing to grant an order for removal to the asylum.

Reviews and Notices of Books.

Manual of Bacteriological Technique and Special Bacteriology. By THOMAS BOWHILL, F.R.C.V.S., F.R.P.S. With 100 Original Illustrations. Edinburgh: Oliver and Boyd. London: Simpkin, Marshall, and Co., Limited. 1899. Pp. 269. Price 21*s*.

IN this book Mr. Bowhill has brought together a large number of useful directions—indeed, as far as material goes there is the making of an excellent manual in the volume before us. Most of the ordinary processes used in bacteriology are described sufficiently clearly, whilst such methods as those employed for the preparation and use of anti-diphtheritic serum are not forgotten. It is quite apparent, however, that the author has yet to realise that merely to translate German sentences word by word does not constitute the whole art of writing English, whilst his rendering of the Latin tongue is singularly deficient.

We are of course prepared for some mistakes in a first edition, but even an indulgent reviewer is obliged to notice and to protest against the introduction of such terms as *aqua distilli*, *aqua distilli boiled*, or *Bacterium coli communis*, whilst when we find that this last is actually corrected in the "Errata" to *Bacterium coli communie* (*sic*) the patience of the most indulgent reader is sorely tried. To give some idea of the lucidity of the directions for certain operations in photo-micrography it will be sufficient to quote a single paragraph. This is how the reader is told to determine the magnification of the image on the ground-glass screen. "Take a stage micromillimeter [*sic*] (which is one millimeter divided into hundredths), place it under the lens and project the picture on the ground-glass slide; adjust the focus and measure the size with an ordinary glass 100 millimeter measure. *When one millimeter of the projected stage micrometer is equal to 10 millimeters on the glass measure, then the magnification equals 1000 diameter.* [The italics are ours.] Other magnifications are calculated in a similar manner."

As stated above, the book contains valuable material and may be useful to advanced students, but to the beginner and, indeed, to anyone who is not well prepared to detect mistakes and to remedy them it can only prove an untrustworthy guide. The paper and print are excellent and the binding is just what that of a laboratory manual should be, but the photographic plates at the end are so badly inserted that they become detached immediately and consequently are very liable to be lost.

The American Year-book of Medicine and Surgery. Edited by GEO. M. GOULD, M.D. Illustrated. London: The Rebman Publishing Company. 1899. Pp. 1102. Price 38*s*.

THIS enormous work is described as being "a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators." The editor is fortunate in possessing a large and capable staff, amongst the members of which are some of the most distinguished medical men in the United States. No pains have been spared in collecting the material and the result is a most valuable *résumé* of the principal work done in the various branches of medical science throughout the past year.

The section on General Medicine is under the charge of Dr. Alfred Stengel, physician to the Philadelphia Hospital, and Dr. D. L. Edsall, physician to St. Christopher's Hospital for Children, Philadelphia. Attention is drawn to the advances which have been made in the department of infectious diseases, stress being laid on the Widal test in typhoid fever which is characterised as "one of great

practical usefulness." Reference is also made to yellow fever, the bacillus of Sanarelli being generally accepted as the probable cause, although the experiments which have been made to attempt to produce a protective and curative serum are by no means conclusive. Reference to the text in this section, as throughout the book, is rendered very easy by the free use of dark type drawing attention to the various points under discussion.

The section on General Surgery is conducted by Dr. W. W. Keen, Professor of Surgery at the Jefferson Medical College, Philadelphia, and Dr. J. Chalmers Da Costa, Clinical Professor of Surgery at the same college. These authors consider that, with two striking exceptions, surgical progress has not been revolutionary but has consisted rather in the accumulation of statistical information regarding various diseases, injuries, and operations, the improvement of diagnostic methods, and the perfection of operative details. One of the exceptions alluded to is the performance of total gastrectomy by Schlatter and others for malignant disease of the stomach and the other is the plan for treating pulmonary tuberculosis by injecting nitrogen gas into the pleural sac and so producing pneumothorax. We believe that we are correct in saying that this "revolutionary" proceeding has not been attempted in this country. Reference is also made to the many operations which have been performed for the forcible correction of the deformity occurring in Pott's disease of the spine after the method of Calot and Chipault. We endorse the statement that the operation "has not yet obtained general confidence. The profession as a whole is disposed to wait for a time in order to determine whether the results are permanent."

Dr. B. C. Hirst, Professor of Obstetrics in the University of Pennsylvania, and Dr. W. A. Newman Dorland, Assistant Demonstrator of Obstetrics in the same University, edit the section on Obstetrics, and they consider the most striking feature of the year to be the great impetus which has been noted in the microscopy of obstetrics, especially in the field of fœtal pathology. The kindred subject of Gynæcology is looked after by Dr. J. M. Baldy, Professor of Gynæcology at the Philadelphia Polyclinic, and Dr. Dorland. The opening words are remarkable: "On looking over the field one cannot but be strongly impressed with the striking change that has come over the sentiment of the abdominal surgeon during the past few months ..... the aim to-day is to see not how much can be safely removed, but how many of the pelvic organs can be saved. Hence we see myomectomy supplanting hysterectomy, and vaginal incision and drainage making heavy inroads upon abdominal section—this is a step in the right direction." "Pediatrics" receives a due amount of attention from Dr. Louis Starr and Dr. A. Hand, jun., both of Philadelphia, who remark that special attention has been given during the past year to the management of children, both as individuals and when grouped together in schools and public places.

The section on Pathology is a particularly interesting one and is written by Dr. J. Guitéras, Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, and Dr. D. Riesman, Adjunct Professor of Clinical Medicine and Therapeutics at the Philadelphia Polyclinic. They remark that the attention of pathologists during the past year has largely been centred on cellular changes "and it may be truly said that the study of cellular pathology has never been more active and vigorous than now." They also point out that diseases in which it was formerly customary to pass over the anatomical changes in silence have been found to possess a distinct pathology and to show cellular alterations which, if not always specific, are yet significant.

Dr. A. Church, Professor of Mental Diseases in the Northwestern University, Chicago, edits the section on Nervous and Mental Diseases; Dr. Gibney, Clinical Professor of Orthopædic Surgery, College of Physicians and Surgeons, New York, and Dr. Waterman, of the New York Polyclinic, write on Orthopædic Surgery; and Dr. Kansell and Dr. Reber, both of the Philadelphia Polyclinic, are responsible for the epitome of Ophthalmology. All these sections contain much that is interesting. Chapters will also be found on Otology, Diseases of the Nose and Larynx, Cutaneous Medicine and Syphilis, Materia Medica, Anatomy, Physiology, Legal Medicine (by Dr. Wyatt Johnston of Montreal), Public Hygiene and Preventive Medicine, and Physiological Chemistry, so that the work can be characterised as most complete and we have nothing but praise for the whole production.

Braid on Hypnotism: Neurypnology, or the Rationale of Nervous Sleep considered in Relation to Animal Magnetism or Mesmerism, and Illustrated by Numerous Cases. By JAMES BRAID, M.R.C.S., C.M.W.S., &c. A new edition by ARTHUR EDWARD WAITE. London: George Redway. 1899. Pp. 380. Price 10*s.* 6*d.*

IT is a curious commentary on the history of the development of hypnotism that the writings of James Braid of Manchester should have till now remained practically neglected and that it should have been left to the industry and critical research of a German physician (the late Professor Preyer[1] of Jena) to have brought before the scientific world the first adequate account of Braid's work. In the present work Mr. Waite gives the reader a careful and on the whole lucid account of the circumstances under which James Braid's work and experiments began and of the writings and publications in which he sought to win acceptance for his views. As early as 1842 Braid, who was then a surgeon practising at Manchester, published a letter addressed to a clergyman "On Satanic Agency and Mesmerism," in which he sought to confute the idea of a mysterious essence or agency passing from operator to subject which was inculcated by the school of Mesmer, as also to combat certain superstitions then prevalent regarding the phenomena of mesmerism. In the following year appeared Braid's work on "Neurypnology, or the Rationale of Nervous Sleep." This work, remarkable alike for its candour and honesty, for the care and conscientiousness with which the writer experimented, and the lucidity and cogency with which he recorded and marshalled his results, found wide and earnest acceptance. Braid in the first part of his work expounds fully the mode of inducing hypnotic phenomena, and in the second part he gives details of cases treated by hypnotism for such complaints as deafness, loss of voice (aphonia), and paralysis of limbs, headache and neuralgia, spinal irritation, epilepsy, &c. In many of these no doubt a large hysterical element (according to modern conceptions) must have existed, and the cases recorded are not unlike those which have been observed in recent years at Paris, Nancy, and Lourdes. Short and interesting accounts are given of 66 cases, and here as elsewhere we find in Braid the careful and conscientious observer, cautious in drawing conclusions, and exhibiting throughout a wholesome and healthy scepticism. The chapter to which we refer is of permanent value and may be read even now with pleasure and profit. A series of notes added in the appendix by the editor should be especially mentioned. These refer to views taught or discussed by Braid in his other and minor publications and dealing with such topics as "trance," hypnotism of the insane, and others of interest; the work concludes with a very complete bibliography of Braid's writings which will be welcome to all book-lovers.

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[1] In his "Entdeckung des Hypnotismus."

LIBRARY TABLE.

The Story of the British Race. By JOHN MUNRO. London: Geo. Newnes, Limited. Price 1s.—This book is one of a Library of Useful Stories issued at popular prices and it is written with the idea of popularising the science of anthropology. Unfortunately, instead of putting into simple language the broad outlines of the difficult subject, the author has spent his ingenuity in describing the origin of the British race from a new standpoint and predicts for the results of his methods something like a revolution in the accepted mode of viewing ourselves. He then attacks well-known authorities and substitutes what he calls a "cephalic index" as a crucial test of racial origin.

Revue d'Hygiène et de Police Sanitaire. Vol. xxi., No. 3. Paris: Masson et Cie.—Of the three chief articles in the March number of this review that in which Dr. Ridolfo Livi deals with Vaccination and Variola in the Italian Army is perhaps the most interesting. As one of the results of his investigation Dr. Livi concludes that if the Italian army were composed, according to the views of the anti-vaccinationists, of persons never vaccinated there would be, out of an effective mean of 207,000 men, no less than 6007 cases of small-pox per annum and an annual loss of 1156 men.

JOURNALS AND REVIEWS.

The Ophthalmic Review. Edited by WILLIAM GEORGE SYM, M.D. Edin. London: J. & A. Churchill. January and February, 1899.—This review which was for so long and so ably conducted by Mr. Priestley Smith has now passed into the hands of Dr. Sym with the same distinguished men as collaborateurs who aided Mr. Priestley Smith, and in addition Dr. W. G. Laws of Nottingham and Dr. Charles H. Usher of Aberdeen. The first number for the present year contains an instructive article on Finding the Axis of Cylindrical Lenses, by Dr. E. E. Maddox. The second contains an article by Dr. Victor Miller on Idiopathic Recurrent Intraocular Hæmorrhages. Both numbers contain translations and notes.

Recueil d'Ophtalmologie. Janvier et Février. Paris: Alcan. 1899.—The chief articles contained in these two numbers of M. Galezowski's journal are one by M. Galezowski himself on the Treatment of Trachoma; another by Dr. Foveau de Courmelles on the Employment of X Rays in Ophthalmology; and a third by Dr. F. Ostwalt on a case of Traumatic Lesion of the Heart followed by Embolism of the Central Artery of the Retina.

Edinburgh Medical Journal.—The first article in the April number is by Dr. Caton of Liverpool, the subject being the Prevention of Valvular Disease of the Heart. Acute rheumatism is the most common starting-point of this condition and as a preventive measure all Dr. Caton's cases of rheumatism are clothed from head to foot in warm flannel during the whole of the acute period, kept in the most absolute rest in bed, and usually treated with gentle cholagogues and a salicylate preparation. As soon as a cardiac bruit is perceptible he applies in the course of the third, fourth, fifth, or sixth intercostal nerve small blisters not much larger than a shilling, one at a time, with potassium or sodium iodide in addition to the salicylate. In a clinical lecture on a case of typhus fever Professor Greenfield discusses disinfection and pleads for the increased application of bacteriological science to practical medicine. Altogether there are eight original articles.

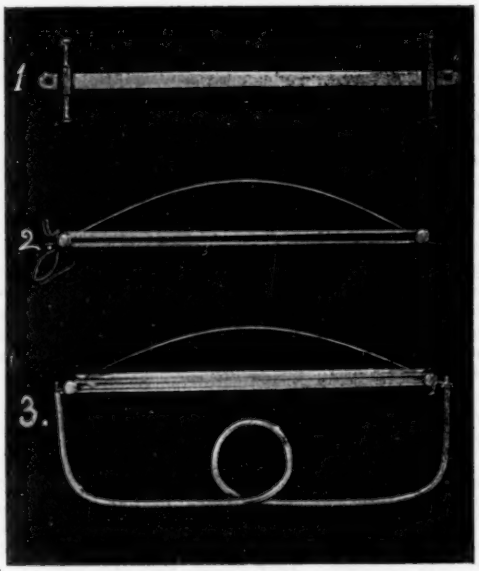
Scottish Medical and Surgical Journal.—In the April number Dr. J. W. Ballantyne (Edinburgh) publishes a long paper on the Present Position of the Pessary in Gynæcological practice. He does not hold with those who condemn pessaries altogether, but takes the view that they are valuable in certain cases. Dr. G. Lovell Gulland (Edinburgh) writes on Rapid Methods of Fixing and Staining Blood Films. Wet films he fixes in a solution of a mere trace of sublimate in equal parts of absolute alcohol and pure ether; dried films in a mixture of formalin 10 parts and absolute alcohol 90 parts. Copious details of the various processes are given.

Birmingham Medical Review.—The original articles in the April number are on the Diagnosis between Supraphrenic and Subphrenic Pyopneumothorax, by Dr. T. S. Short; on the Treatment of Tuberculosis, by Mr. Lionel Stretton; and on the Spastic Paralyses of Children, by Dr. W. R. Jordan. With regard to birth palsies Dr. Jordan says that where there is no question of additional danger to the mother it is well to shorten as much as possible any labour which shows signs of being protracted, for the dangers of instrumental delivery are less than those of prolonged labour.

New Inventions.

A METHOD OF RETAINING THE ORIGINAL STRENGTH OF LIGATURES AFTER BOILING.

IF Chinese silk or green gut be sterilised by boiling in water in the ordinary way they become untwisted and lose much of their original strength. If we avoid this untwisting by keeping them upon the stretch during the boiling the original strength of the ligature is maintained. For this purpose the instrument figured below was made for me by Mr. J. Reynolds of Liverpool. I have used it for about two years and find that I can boil Chinese silk or green gut in water repeatedly without any loss of strength. The instrument consists of two parts, a



winder or spool and a handle. The spool is a flat steel spring seven inches long, having at each end a cross-bar over which the ligature is wound; beyond each cross-bar is a small eye (Fig. 1). The handle is a piece of rigid bent wire which fits into the eyes in the spool and holds the spring bent ready to receive the ligature; this greatly facilitates the winding of the ligature upon the spool (Fig. 3). When the ligature has been wound on the spool and the end fastened off the spring is released from the handle and is ready for boiling (Fig. 2). I have found both silk and green gut prepared in this way most satisfactory.

Liverpool. T. B. GRIMSDALE, M.B. Cantab.

THE LANCET.

LONDON: SATURDAY, APRIL 15, 1899.

THE Lord Chancellor has introduced into the House of Lords a Bill entitled an Act to Amend the Pharmacy Act, 1868, which practically seeks to legalise company pharmacy. Though the Bill contains nothing strictly medical in interest yet the powers which it proposes to confer upon trading companies to serve as pharmacists are well worth the attention of our readers. As in the case of the Companies (Medical Profession) Bill with which we dealt in a leading article last week the title of the Pharmacy Bill and the Bill itself are a model of brevity. The Bill has been introduced on the representations of the Council of the Pharmaceutical Society, but the spirit of these representations seems to have been completely ignored. The Pharmacy Act, 1868, provides for the infliction of penalties on persons acting as chemists or druggists without being registered. In a remarkable case which was decided by the House of Lords on July 22nd, 1880, it was ruled that the word "person" does not include a corporation, and that consequently penalties for contravention of this provision of the Act cannot be recovered from a company. A company cannot pass the examination required to qualify for registration as a chemist or druggist, but the new Bill would allow a company to carry on the business of a chemist or druggist on the condition that it employs a duly qualified manager or assistant—that is to say, it would place a company in a similar position to that of the executors or trustees of a deceased druggist, and would require that, subject to this provision, anything which would be an offence under Section 15 of the Pharmacy Act, 1868, if committed by an individual should be an offence if committed by a company. The principle therefore which rules in the essential clause of the Companies (Medical Profession) Bill is completely reversed in the Pharmacy Act, 1899. In short, while it is to be unlawful for a company under the Companies Acts, 1862 to 1898, to carry on the profession or business of a physician, surgeon, dentist, or midwife, it is to be lawful for a company to carry on the business and use the description of a pharmaceutical chemist if and so long only as the business is conducted by a manager or assistant who is duly registered in accordance with the requirements of the Pharmacy Act, 1868.

A greater blow to the status of the respectable profession of pharmacy could hardly have been dealt and if the Bill be passed all the commendable energy and zeal of the Pharmaceutical Society to raise the standing of those who dispense medicines and sell poisons will be lost. Indeed, since the time when the Pharmaceutical Society was established in 1841 it has laboured most vigorously for a test of qualification, and in 1868 Parliament recognised the importance of registering a body of educated men such as are those who follow the practice of pharmacy. The Lord Chancellor has amplified that provision in Section 16 of the Pharmacy Act which was framed on behalf of widows and which enables them to retain a hold on the businesses which their deceased husbands were qualified to conduct. Exception may be taken to the suggestion in the memorandum to the Bill that the object of the Bill is to place a company in the same position as the executors or trustees of a deceased druggist, for it should be pointed out that the law insists that the executors of a deceased druggist must appoint a qualified manager. Pharmacists would, we think, deplore the passing of this Bill, for it would plainly afford a mischievous precedent tending to drag down professional occupation to the level of mere trading. The medical profession, we have no hesitation in saying, regards the pharmaceutical profession as a useful and honourable one which can only be properly conducted by men of enlightenment and knowledge who must be recognised as such and stamped by a qualification recognised by the State. It seems to us that if this Bill should become law a company could "run" a hundred shops and yet retain the services of only one single qualified man to satisfy the requirements of the law. Thus in 99 shops medicines could be dispensed and poisons sold by the unqualified, the inexperienced, and the ignorant. The development of "companies" has of recent years been great. Hence the pharmacist has found it expedient to add accessories to his business which require no legal qualification to enable him to sell them. For example, tooth brushes, combs, and sponges, and a variety of other articles are, strictly speaking, outside the class of article which the pharmacist might be expected to sell. Doubtless these accessories are a source of profit to him, but we cannot help thinking that if his work had been restricted to the dispensing and sale of medicines, for which the Pharmacy Act was designed to qualify him, the transaction of such a business would never have fallen into the hands of mere company promoters.

We understand that it has been suggested that if the Lord Chancellor cannot see a way of preventing companies from interfering with pharmacy, he should insert a clause providing that all the directors of any such company should be qualified pharmacists. Such a clause would seem to be fair and desirable.

WE have before us a bulletin issued by the Chicago Health Department on the treatment of diphtheria by antitoxin in that city from Oct. 5th, 1895, to Feb. 28th, 1899. The statistics are carefully given and the results obtained are certainly most remarkable and furnish some of the most powerful proofs of the success of the antitoxin treatment in diphtheria which have yet been published. The records deal exclusively with the gratuitous treatment of patients suffering from diphtheria in the homes of the poor and destitute—those unable to pay a medical practitioner. As these cases are reported to the Health Department they are at once assigned to the disengaged medical

inspectors nearest the respective localities so that no time may be needlessly lost in reaching any patient—and this by night as well as by day. If the clinical symptoms point to a diagnosis of diphtheria the antitoxin is administered at once without awaiting confirmation by bacteriological cultures. To quote the words of the report: "The patient, rather than the disease, receives the benefit of the doubt." Before the practitioner leaves the case and before local treatment to the throat has been commenced specimens are taken for immediate bacteriological examination. Only those cases which are by this means verified as true diphtheria by the identification of the Klebs-Löffler bacillus and which are treated throughout by the inspectors of the department enter into the official records. These precautions add greatly to the value of the statistics, the accuracy of which is practically unassailable.

A summary of the results shows that between Oct. 5th, 1895—the date of the first administration of antitoxin by the department—and Feb. 28th, 1899, a period of nearly three and a half years, a total of 6342 reported cases of diphtheria were visited by the inspectors; that of this number 4311 were bacteriologically verified as true diphtheria, and 4076 were treated by them with antitoxin, the remaining 235 either refusing antitoxin treatment or being treated by other physicians and the results not being known; that of the 4076 treated by the physicians attached to the department 3795 recovered, 276 died, and five remained under treatment at the close of February, 1899. The figures of recoveries, 3795, and of deaths, 276, give a mortality rate of 6·77 per cent. in 4071 cases of diphtheria, the diagnosis of which had been duly corroborated by the demonstration of the pathogenic bacillus. To quote a few more figures. The record of the last four months of the period is even more gratifying. During November and December, 1898, and January and February, 1899, there were treated 100 cases in November, with 97 recoveries and three deaths, a mortality of 3·0 per cent.; in December 119 cases, with 115 recoveries and four deaths, a mortality rate of 3·36 per cent.; in January 101 cases, with 94 recoveries and seven deaths, a mortality rate of 7·4 per cent.; and in February 103 cases were treated, with 92 recoveries and six deaths (five patients remaining under treatment at the end of the month), a mortality rate of 6·1 per cent. of the completed cases. Then follows another important statement: "There was no death among 129 cases treated on the first or second day of the disease and only three deaths among 114 treated on the third day, a mortality of 1·23 per cent. in 243 cases; 9 per cent. of the cases, or 38 in number, required intubation, with 30 recoveries and eight deaths, a mortality of 21 per cent. for laryngeal stenosis, or less than two-thirds the mortality rate of all diphtheria in Chicago prior to the introduction of antitoxin." Referring again to the 4071 cases we have still further proof of the advantage of administering antitoxin in the early stage of the disease. Of 355 cases treated on the first day of the disease only one died, a mortality rate of 0·28 per cent.; of 1018 first treated on the second day 17 died, a mortality of 1·67 per cent.; of 1509 treated on the third day 57 died, a mortality of 3·77 per cent.; of 720 treated on the fourth day 82 died, a mortality of 11·39 per cent.; and of 469 cases first treated later than the fourth day of the disease 119 died, a mortality of 25·37 per cent. Hence the successful and early diagnosis of diphtheria has a most marked influence on the success of the treatment. The marvellous (we do not think the word is too strong) results which have been obtained by the Chicago Health Department are attributed by the physicians primarily to the prompt administration of antitoxin—in full strength and quantity—to every case visited that warrants the suspicion of diphtheria; and by the words "full strength and volume" is meant at least the minimum dose of 2000 units in five cubic centimetres. The results of this strength and bulk have been found more satisfactory than those of more concentrated serum and much more reliable than a lesser number of units. Experience has shown the importance of a large initial dose, ranging from 2000 to 3000 units, according to the gravity and stage of the disease. Another interesting statement contained in the report is that "more than three years' experience has demonstrated that, in this city at least, the home treatment of diphtheria even in the most squalid and insanitary surroundings gives better results than hospital treatment." The prime factor of success is attributed to the early injection of the serum. "The delay caused by removal to hospital by awaiting the result of the bacterial examination (as is done in many contagious disease hospitals) and by other more or less unavoidable routine hospital procedures more than offsets the unfavourable conditions that obtain in homes even of the poorest, where the antitoxin is carried promptly to the patient instead of carrying the patient to the antitoxin."

A diagram is given in the bulletin showing the contrast between the mortality in diphtheria before and after the introduction of the antitoxin treatment. During the 10 years prior to the treatment—from 1886 to 1895—there were 14,175 deaths from diphtheria, a yearly average of 1417, while during the subsequent three years of antitoxin treatment there were only 2552 deaths, a yearly average of 851. Thus, without regard to any change in population there were absolutely 566 fewer deaths from diphtheria during each year of the last three years than the average number of deaths from the same disease during the preceding 10 years. It should be added that the above figures also include those cases in which death was certified to be due to "croup." The method of treatment adopted by the Health Department of Chicago has certainly afforded the best results yet published as regards the use of antitoxin in diphtheria. We have already alluded to the points which seem to us to be most worthy of notice, especially the use of the remedy in all cases which clinically resemble diphtheria, without waiting for a corroboration of the diagnosis by bacteriological cultures. The antitoxin appears to be quite harmless when administered with due antiseptic precautions, and as the successful results are in direct proportion to the stage in which the antitoxin is given—the earlier the stage the more likely the cure—it certainly seems sound practice to use it in the manner described in the bulletin. The system of notification so admirably carried out has been the means of presenting the medical world with a very complete series of statistics; and it would be most instructive if other municipal bodies would arrange for

a similar investigation so as to test what is probably one of the greatest medical discoveries of the present century.

THE London Government Bill will probably be discussed next week by the House of Commons in Committee and the Government will have to consider which of the numerous amendments they will be prepared to accept. That they will be willing to avail themselves of the experience of many men who have been personally engaged in the administration of local affairs we do not doubt and as a result possibly the Bill will be subjected to considerable modification before it becomes law.

If we understand correctly the view of the Government it is that every effort shall be made to ensure that the representatives of district populations shall be better deserving of confidence than some of those who have recently controlled the local administrations. Whether the opportunity of being styled mayors and aldermen will have this effect time alone can show, but these titles are, to our thinking, more likely to appeal to a class somewhat lower than that which we should prefer to see empowered to expend the ratepayers' money. There is, however, no doubt that a considerable reduction in the number of representatives to be elected will enhance the prestige of each election, and this change alone is likely to bring into the field better candidates for municipal honours. We should have been glad also if the Bill had been so drafted that the ratepayers could have changed the whole body of representatives every three years if experience of their action had shown this to be necessary.

Among the provisions which we assume are intended to make service on the new metropolitan councils attractive is the privilege of exercising some of the powers of borough authorities, for example, the coveted power of promoting Bills in Parliament. It is not probable that the Government will persist in this intention. Whatever their size and rateable value the new boroughs must stand in many respects to the whole of London in the same position as the wards of the larger towns in England stand to the towns as a whole. It would not be possible to confer such power on the wards of Liverpool or Manchester, and it will not, we are satisfied, in practice be found possible to confer such power on the municipal boroughs of London. Especially would this prove impossible in the case of powers relating to the public health. Utter confusion would arise if the laws which one borough council desired differed, perhaps in essential respects, from those which another borough council desired. The London inhabitant, and especially the London tradesman, would be hopelessly bewildered as to the law which it was his duty to obey, and ignorance would in a short time be held to be excuse for disobedience. At the present time a number of town councils are promoting Bills in Parliament for insuring the purity of their milk supply. Obviously any legislation for London in this and other health matters must be provided at the instance of a body representing the whole of the metropolis or the condition of law in London would become chaotic.

On one question we do not anticipate any differences of opinion. We refer to the necessity of the transfer of the duties of the Metropolitan Asylums Board relating to notification of infectious disease and to hospital provision to the London County Council. It is obvious that these duties are a part of the public health administration of London and that their dissociation from the authority which appoints the medical officer of health of London and contributes to the salaries of the medical officers of health of London districts is an element of weakness in London administration. Such change would imply no want of confidence in the managers of the Metropolitan Asylums Board. It is a change inevitable if London is to be provided on any reasonable system with a more complete administration, and certainly without this change London is given less opportunity of guarding itself against disease than are all other large towns. Fortunately the time is now ripe for such a change, for the London County Council has demonstrated its administrative capacity in matters affecting the public health.

The Government have no easy task in designing a health administration which while leaving the responsibility of the carrying out of many important duties to the borough councils shall yet ensure the maintenance of the principle that for health purposes the London population is one. The need of some central control has been long felt and the Local Government Act of 1888 and the Public Health Act of 1891 did much to provide what was necessary. Before the Public Health (London) Bill was drafted Mr. RITCHIE took into his counsel the several metropolitan district authorities and the London County Council. It does not appear that Mr. BALFOUR has followed this example and we cannot but believe, if it is not too late, that he would do well to invite the opinions of those who might help him to solve this difficult problem.

We have already expressed our expectation that the Bill which is now before Parliament will render useful service to London from a sanitary point of view. If it were amended in the sense which we indicate we believe that its usefulness would be assured, for one weak point which it now possesses is that it fails to provide a public health administration sufficient for the requirements of London.

Annotations.

"Ne quid nimis."

THE TUBERCULIN TEST AND HER MAJESTY'S HERD OF DAIRY COWS AT WINDSOR.

THE value of tuberculin as a diagnostic agent in the detection of tuberculosis has received striking confirmation by an experiment carried out at Windsor. The herd tested belonged to Her Majesty and consisted of 40 non-pedigree cows, mostly Shorthorns and Jerseys. At a meeting of the Society for the Prevention of Consumption and other Forms of Tuberculosis, held at Marlborough House on Dec. 20th, 1898, H.R.H. the Prince of Wales mentioned that Her Majesty had given permission for 36 cows from her home farm to be destroyed because they had been found to react after testing with tuberculin. Official sanction has now been given to the publication of the full details of the experiment in question. The 40 cows forming the herd were all in good condition and apparently

healthy. They were all tested and were under the care of Mr. Allnutt and Mr. Tennant, veterinary surgeons, of Windsor. The tests were carried out on Sept. 16th and 17th, 1897, and the temperatures of the cows were taken on Sept. 14th by Mr. Tennant when with the exception of one cow in which the temperature was 104° F. all the cows had temperatures under 103°. The test was commenced on Sept. 15th, the temperature of each cow being taken just before injection and at the third, sixth, ninth, twelfth, and fifteenth hour afterwards. At least 32 cows appeared to be tuberculous, their temperature rising to 104° or more, five cows appeared to be healthy, and three were doubtful. The whole herd was killed and the carcasses were examined at the Royal Veterinary College. Of 34 animals whose temperature had risen above 104° 33 were found to be tuberculous. The remaining animal was not tuberculous but had a diseased uterus. The rise in this case was sudden and did not occur until after the twelfth hour. Of four cows which did not react three were found to be free from tubercle and the fourth had one small caseous gland in which tubercle bacilli were found. The two remaining cows which were classed as "doubtful" were both found to be tuberculous. Professor J. McFadyean, from whose paper in the *Journal of Comparative Pathology and Therapeutics* we take these details, points out that the herd experimented upon might reasonably have been supposed to be free from tuberculosis as the cows were living under the very best conditions. There is only one way of keeping housed cattle free from tuberculosis, says Professor McFadyean, and that is to see that no tuberculous animal is admitted among them. This plan, we are glad to see, has been adopted in the formation of the new dairy herd at Windsor, all animals purchased for it being tested and admitted only when they do not react. It will be seen that a rise after the injection of tuberculin is not proof positive of the existence of tuberculosis, since one cow which reacted had no tubercle but suffered from a diseased uterus. But in a very large proportion of cases a rise was practically pathognomonic.

ANOTHER VICTIM TO QUACKERY.

THE adjourned inquiry into the death of Mrs. Elizabeth West, the wife of a furniture dealer at Southend, was concluded on April 3rd before Mr. Edgar Lewis, the coroner for South Essex. The deceased had been attended by a "lady doctor" calling herself "Madame" Comber. The husband in the course of his evidence stated that "Madame" Comber had first attended his wife about ten weeks previously. His wife had told him that "Madame" had made a most miraculous cure. "Madame" told him that his wife was suffering from the displacement of an internal organ and a certain obstruction which must be removed. Afterwards "Madame" Comber said that she had put the displacement right. She told him that she was certified and had surpassed many medical men. "Madame" Comber gave evidence and said that her husband was a carpenter now in the Islington Workhouse. In answer to a question put by the coroner, "How do you describe yourself?" she replied: "Well, as a chemist or a nurse and do anything that is handy." As far as she knew she was on the register as a chemist. She had heard of peritonitis but did not know what it meant. She could not diagnose any disease. In her opinion immediate danger meant when a person was "struck for death." Dr. Avery Clough Waters said that the deceased died with symptoms pointing to acute peritonitis. The treatment had been inadvisable but he could not say that it had accelerated death. A verdict of "Death from natural causes" was returned and the coroner was requested to censure "Madame" Comber. This he accordingly did, telling her that she had narrowly escaped being committed for manslaughter. He disallowed her expenses. He said that should she ever come before him again she might not get off so easily. To our minds when an absolutely ignorant quack talks about rectifying displacements and removing obstructions and when, moreover, a woman in whom she claims to have put a displacement right dies from peritonitis, the case assumes a very serious aspect. "Madame" Comber may have done and very likely did do nothing, but she said that she did and that is quite enough to condemn her.

ON THE ANCESTRY, COLLATERALS, AND DESCENDANTS, OF EPILEPTICS.

THE study of the hereditary antecedents of nervous diseases has occupied much attention during the past decade and this branch of investigation combined with sociological study has done much to elucidate our knowledge concerning the origins and modes of transmission of many nervous and mental disorders. The most important work in this direction relates to the neuroses and psychoses connected with alcoholism, epilepsy, and general paralysis of the insane and has emanated largely from the French school. Dr. Gaston Bechet, in the *Archives de Neurologie* of March, 1899, gives us a careful study of the antecedents, collaterals, &c., of epilepsy, basing his work on the minute study of 40 families, epileptic members of which had come under observation at the Ville-Evrard Asylum, France. The facts are arranged among various headings as follows: 1. *Longevity.*—Among the 135 grandparents of 40 epileptics of whom a definite and trustworthy history could be obtained 130 had died at the average age of 69 and five were still alive at an advanced age. The respective ages and numbers of those deceased were distributed as follows:—

Age (deceased).	Total number male and female (deceased).
Above 90 years	7
80-90 ,, ...	28
70-80 ,, ...	54
60-70 ,, ...	19
50-60 ,, ...	11
40-50 ,, ...	6
30-40 ,, ...	5

Of the 80 parents (of the 40 epileptics observed) 37 were alive and 42 were dead, while one was untraced. Of those deceased 25 male parents died at the average age of 55 years; and 17 female parents at an average age of 45 years. Of those living 14 males averaged 61 years and 23 females averaged 59 years. Comparing these numbers with those relating to normal families studied by Ball and Regis (in *l'Encéphale*, 1883) it is shown that while the average age at death of parents of normal families is 57 years, that of parents of epileptic families is 50 years—a decidedly diminished longevity. 2. *Antecedents and collaterals.*—The 40 epileptic patients had 305 members as the sum total of their parents, uncles, and aunts, while of collaterals (brothers and sisters) they had in all 205, which added to the 40 patients gives 245 children for 40 families, or an average of 6·11 children per family, a number which is pointed out to be decidedly above the average of ordinary families in France. "Epileptics belong to families of more than average fecundity" is Dr. Bechet's conclusion. 3. *Descendants.*—On the other hand epileptics themselves beget but few children. Thus, of the 40 patients 26 were married—14 being celibate—and had issue. The latter, however, comprise only 30 children, or an average of 1·16 per family, a considerably smaller percentage than that of corresponding normal families, which is given as 2·73 by Ball and Regis. Dr. Bechet concludes that "the reproductive power of epileptics is small; it is essentially less than that of ordinary (non-epileptic) families; in short, epileptics tend towards sterility."

4. *Vitality.*—Although the collaterals (brothers and sisters) of epileptics show a larger number per family than the average, yet their vitality is lower and a larger number of deaths occur among them than in ordinary families. Thus of the 245 collaterals of 40 epileptics 140 were alive and 105 were dead. Among the 105 deaths were three miscarriages, 75 deaths in the first decade of life, 16 in the second decade, five in the third, and six in the decades above the third. This mortality, compared with that of normal families, shows an increased ratio of one-third above the normal for all ages up to 20—i.e., for every three deaths in ordinary families there are four deaths in epileptic families. 5. *Morbidity.*—Among the parentage (including uncles and aunts) of epileptics Dr. Bechet finds a predominance of pulmonary affections and particularly of phthisis, while neuroses and insanity are remarkably rare among them. The children of epileptics, on the other hand, suffer abundantly and frequently from convulsions and meningitis. The general conclusions drawn are as follows: (*a*) Duration of life or longevity is sensibly less among the antecedents of epileptics than that which normal families present. (*b*) Epileptics belong generally to large families; they have many brothers and sisters, but, on the other hand, they are not themselves able to beget large families; epileptics tend to sterility. (*c*) Epileptic families have a lower vitality than normal families. (*d*) The morbidity in the ancestry and issue of epileptics takes a special form, pulmonary diseases, and especially phthisis, being common in the parentage, while cerebral affections, and meningitis in particular, are commonly found among the children of epileptics; insanity proper is rare in epileptic families.

FERMENTATION WITHOUT YEAST CELLS.

HITHERTO it has been generally admitted that when the yeast cells are introduced into a solution of sugar they begin to grow and to multiply by gemmation, new cells budding off from the old ones with wonderful rapidity. In the act of growth the sugar is broken up into alcohol and carbon dioxide though the presence of small quantities of succinic acid and some other substances indicates that the decomposition which occurs is more complex than at first sight appears. Some important researches have been recently made by Dr. Wróblewski of Cracow which demonstrate that the cells contain a ferment or enzyme and that the splitting up of the sugar molecule is not dependent upon the growth of the cells. Dr. Wróblewski triturated some yeast so that the cells were completely broken down and then subjected the mass to a pressure of 300 atmospheres. The fluid thus obtained possessed a very feeble fermenting power. Quite fresh *ground* yeast was pressed dry with a pressure of from 50 to 75 atmospheres; a kilogramme of this was triturated with 750 grammes of sea sand and 75 grammes of flint powder till the mass was tough and doughy. A pressure of 300 atmospheres was then applied to it and (after filtration) a clear fluid was obtained from it. This juice, mixed with an equal volume of a 60 per cent. solution of cane sugar, started active fermentation in from 10 to 20 minutes. Microscopical examination showed very few isolated yeast cells, so few, indeed, that it was hardly possible that they could be the active agents, especially in so concentrated a fluid. The fluid obtained by pressure from *surface* yeast possessed but little fermentative power, though it frequently contained a large number of yeast cells. Slight increase of temperature, as, for example, the heat of the hand, caused considerable increase in the activity of the fluid obtained by pressure of *ground* yeast, so that disengagement of gas was observed to take place more actively than elsewhere in that part of a long test tube which had been grasped by the hand. Chemical examination of the yeast juice showed that it contained numerous substances in solution belonging to the proteids, coagulating at 41°, 51°, 56°, 59°, 62°, and 68°C. It also contains globulin, mucin-like bodies, proteoses, peptone, nucleo-albumin, a carbohydrate, a peculiar crystallisable substance containing much phosphorus, tyrosin, leucin, glutaminic acid, nitrogenous bases, xanthin—a substance which converts sulphur into sulphuretted hydrogen and iodine into iodurretted hydrogen—glycerine, calcium and magnesium phosphates, peculiar volatile substances, and several others. There are also some ferments, especially invertin and zymase. When the juice was heated to from 40° to 41°C. it lost its fermentative power and Dr. Wróblewski considers it to be not improbable that an albumin is present which is identical with the zymase. The statements of Dr. Wróblewski support those already made by Frau Marie von Manassein and von Buchner that sugar can ferment without yeast cells and lead to the conviction that alcoholic fermentation is effected by the agency of a chemical substance or at least by chemical agents. Buchner has named this substance zymase and associates it with the enzymes. Dr. Wróblewski regards in like manner fermentation as a chemical process and as performed by chemical agents. The zymase which splits up sugar differs from the enzymes both in its reaction and in its properties. It is inoperative at 40° C. and has very feeble osmotic power. It must be placed amongst Ostwald's catalytically acting bodies upon the precise behaviour of which we need much more light.

THE ROYAL BERKSHIRE HOSPITAL.

A SPECIAL court of the governors of this institution was held on April 4th to consider the report of the special committee, to which we alluded in our issue of April 1st. The proposed new rule concerning the annual re-election of the medical staff was carried with some important alterations. First, the annual re-election is to apply only to the acting medical staff; and, secondly, if any member be not re-elected the decision must be confirmed "at the next annual court or at a special court to be convened for the purpose." Thirdly, this new rule is only to apply to elections after April 4th, 1899. We think that these alterations are much for the better. The making it necessary for the non-election of any member of the staff to be confirmed by a future court will give the member in question an opportunity of defending his position should he so desire. Moreover, it will be seen that, as we urged in our previous comments on the subject, the new rule is not to be retrospective. Mr. O. C. Maurice tendered his resignation, which was accepted with great regret, but we are glad to see that he was unanimously elected as consulting surgeon. Mr. Maurice has been connected with the Royal Berkshire Hospital for nearly forty years and, to quote the words of Major Thoyts, a governor of the hospital, "everyone knew how much the institution was indebted to him." It was decided that in future the post of physician to the hospital should be held only by a graduate in medicine of a university of Great Britain or Ireland not practising surgery.

THE DESTRUCTION OF REFUSE.

THERE remains now absolutely no excuse for our sanitary authorities to "dump" down household rubbish, market refuse, and the like on low-lying grounds with the view of raising the level and to make them suitable (?) for building purposes. The complete destruction of all sorts and conditions of refuse has now been accomplished in a manner to satisfy even the most exacting sanitarian as well as the economical mind. The difficulties of effectually destroying a heap of material comprising tin pots, cabbage stumps, spent tea-leaves, and cinder ashes

have been very great, but these difficulties have been removed chiefly by paying attention to the fact that the heat of combustion must be maintained if complete destruction is to be secured. Lord Kelvin, in conjunction with Professor Barr, has recently been investigating the question and his conclusions are interesting and very assuring. He points out that with properly constructed plant no inconvenience whatever need be caused. The absence of smoke is ensured, while the complete destruction of organic matter is secured when attention is paid to the proper construction of the furnace. Further, destructors may be located in populous districts without danger to health or loss of comfort and thus the expense of cartage may be reduced to a minimum while the inconvenience which must arise if all the refuse from a large district be taken along one thoroughfare to a destructor in the outskirts may be avoided. The problem of refuse destruction, indeed, may be counted as solved, especially when we consider that it is possible to destroy the whole of the carcass of a horse without offence and of immense quantities of paper without the escape of charred particles or ash from the chimney-shaft. Since this is so, we think that it should be obligatory on the part of all of our sanitary authorities to adopt destructors and to abandon the hideous, unsightly, and disease-dealing method of dumping rotting and offensive refuse on the nearest waste space.

ELECTRIC CONDUITS A POSSIBLE CAUSE OF THE SPREAD OF DISEASE.

THE electric light in our houses is a delightful luxury, but it is not certain that while the electric companies pay every attention to the insulation of their cables and "leads" they bear in mind certain other conditions which are none the less essential to the health and comfort of the householder. A correspondent points out, for example, that in the town where he lives the main cable supplying the current is laid in a four-inch pipe beneath the public footpath with branch pipes for house connexions the ends of which are left open. The higher temperature inside the houses induces an indraught of air by these open pipes and, as different houses vary in temperature and these pipes form a direct communication from house to house, so there is a circulation set up between one house and another, the current of air varying in velocity according to the range of temperature. In the case of houses warmed throughout by a hot-water system the temperature may be as much as 25° F. higher than the external air, a condition which causes an influx of air of sufficient velocity to blow out a candle flame. In this way the infected air of a house where infectious disease is present might easily be drawn into other houses with serious results. The conveyance of small-pox by aerial agency is established, and it is conceivable that it could be conveyed from one house to another in the manner just suggested. There is the possibility of other contagious diseases being spread in the same way. The preventive measure is clear: the pipes should be plugged with insulating material so as to stop the intercommunication of the atmosphere between one house and another.

THE NOTIFICATION OF INFECTIOUS DISEASES.

THE fact that the Notification Act (Extension) Bill has been read a second time in the House of Commons at least makes it possible that there will be legislation on the subject during the present session. We think that the Members of Parliament who have backed the Bill have done wisely in not including in the Bill other amendments of the existing law than those for which it provides until it was known that the House of Commons had no objection to the principle that the requirement as to notification should extend to all parts of England and Wales. But while this is the case we should be glad if opportunity occurred to test the feeling of the House on the question of one or two amendments which would make notification of much wider use than it can be under the existing law. Hitherto, except in London, notification has been too much regarded as providing material for administrative use only in the comparatively small areas of urban and rural districts. Its possible use to county authorities and its larger use to the country as a whole are not contemplated in the present law. We would gladly see the Bill amended in this larger sense and supported by the Government. We do not believe that any desire would be shown by members of either House to limit the usefulness of a system which has been increasingly shown to be necessary for the safeguarding of the health of the vast population of this country.

THE STEREOGNOSTIC SENSE AND ITS IMPAIRMENT IN BRAIN DISEASE.

DR. JOSEPH SAILER, in a recent publication,[1] makes a contribution to the study of this sense—the sense of form and solidity. Excepting Hoffmann[2] no medical writer, he says, has seriously studied this sense, and the standard text-books of Gowers, Oppenheim, Mills, &c., do not specially mention it nor is it dealt with by Laehr in his special studies on sensory phenomena. The case recorded is that of a man, aged 53 years, who was admitted to the Philadelphia Hospital for hemiplegia in February, 1897. He had a history of alcoholism and the hemiplegia followed upon apoplexy. He improved considerably after a while but the left arm was permanently paretic, the hands and fingers showing a slight contracture. The tendon reflexes were exaggerated. On testing it was found that the simple tactile sense was present in the affected limb but localisation of light contact was very inaccurate. If the hand was touched the patient would indicate a point two inches away from the point touched; if one of the fingers was touched he was unable to recognise which one; upon the forearm he usually indicated a point about an inch above the point touched. Temperature sense was completely lost in the hand and markedly so in the forearm. Above the elbow both thermal and tactile senses were correctly indicated. The "muscular sense" was lost in the hand and neither a slight nor a considerable alteration in the position of the fingers appeared to be perceived. The same was true of the wrist-joint; at the elbow, however, conditions of flexion, &c., were correctly recognised, though an occasional mistake was made. In the majority of instances the patient was unable to distinguish between hard and soft objects placed in the hand, and he had no perception of their shape, yet the same objects placed in the right hand were recognised at once. The sensory failures in the left lower limb were similar to those in the left arm. The knee-jerk was greatly increased and there was ankle clonus; the left leg was paretic, but the patient could walk with the aid of a stick. There was inequality of the pupils with left hemianopsia which disappeared to a great extent. Analysis shows that simple tactile sensibility, localisation of tactile points and areas, the pressure sense, the temperature sense, and the sense of the position of the fingers and limbs, all contribute to form the "stereognostic" sense, the most important factor being the recognition of pressure and of position (space sense). Dr. Sailer quotes cases recorded by Wernicke and von Monakow,[3] Burr, and Olmstead,[4] of similar phenomena in hemiplegia. He

[1] Journal of Nervous and Mental Disease, March, 1899.
[2] Vide Möbius: Diagnostik der Nervenkrankheiten, Leipsic, 1894.
[3] Gehirn-Pathologie, 1897.
[4] Journal of Nervous and Mental Disease, January and November, 1898.

concludes (*a*) that the stereognostic sense is due to a complex sensory perception starting in the parietal lobe of the brain and spreading thence into some higher centre ("apperception centre"); (*b*) that peripheral disturbances in the nerves may lead to loss of isolated elements—tactile, thermal, &c.—of the stereognostic sense; and (*c*) that the higher "apperception centre" may also be disturbed in severe cerebral injury—e.g., apoplexy—and that in such cases the stereognostic sense may be lost even though all the individual sensations of skin and limb are preserved. The thesis is important and in view of the fact that experimental evidence goes to show that in dogs the tactile sensibility of the limbs is located in the area around the crucial sulcus (Luciani) and that the same area practically contains the memories of muscular movements (Hitzig); and, further, in regard to the fact that Bastian has brought the most cogent evidence for the "kinæsthetic" functions of the Rolandic area in man, and having regard also to the fact that local lesions of the same area produce errors of the sense of tactile localisation (Horsley), and that slight faradaisation of the same can give rise to cutaneous sensations and feelings of movements, referred to the hand, arm, &c. (Dana, Ransome), it follows that many functions are represented in the Rolandic area, and Dr. Sailer's study serves to throw further light on the functions of this region of the brain the practical importance of which is undeniable in the diagnosis and study of cerebral disease.

A MEDICAL ARCHÆOLOGIST.

MR. JOSEPH STEVENS of Reading, who died in that town on April 7th at his residence in the Alexandra-road, was a good example of the successful combination of medical work with other fields of mental activity. Born in Berkshire in 1818 he studied medicine at the Middlesex Hospital, became qualified as M.R.C.S. Eng. in 1843, and as Ext. L.R.C.P. Lond. and L.S.A. in 1844, and forthwith commenced practice in St.-Mary-Bourne, a village near Andover. The situation was an ideal one for an archæologist, presenting opportunities which Mr. Stevens utilised by forming collections of palæolithic implements, neolithic implements, and fossils, which in course of time were deposited in the museum at Reading. He was, however, much more than a mere collector of curiosities. Imbued with a love of his subject and well acquainted with the results obtained by other workers in the same field, he was a frequent and valuable contributor to the literature of archæology and natural history. His writings of this class include "Geological Notices of North Hampshire," "The Flint Works at Cissbury," "Discovery of Pit Dwellings at St.-Mary-Bourne," "Sarsens, Greywethers, or Druid Stones," and "Roman Remains recently discovered at Preston, Sussex." About twenty years ago he retired from practice and removed to Reading, where he held the office of curator of the local museum and made many further contributions to the literature of archæology. Mr. Stevens was widely known and his death is lamented by numerous friends. His high reputation procured for him the membership of various scientific societies and he was moreover on the council of the British Archæological Association.

AN UNFORTUNATE PRESCRIPTION.

LAST October Dr. Fred. H. Brennan, a qualified medical man holding diplomas obtained in Ontario at least 12 years ago and practising in Johannesburg, was arrested on a charge of culpable homicide. The allegation was that a Mrs. Robinson had died from strychnia poisoning after taking a mixture prescribed by him and dispensed by the now extinct Speer Medical Company, of which he was medical officer. The patient suffered from psoriasis and anæmia, and the prescription, as printed in the *Johannesburg Weekly Star* of March 11th, contained "Liq. As." one ounce, and "Liq. Strychn." five drachms, together with water to make up six ounces, the dose being half a teaspoonful. It seems that prescriptions in these terms were frequently written by Dr. Brennan and made up on the company's premises without ill effects ensuing. Mrs. Robinson, however, was seized with fatal convulsions and her death was attributed to the dispenser having made up her medicine with alkaline liquor arsenicalis instead of acid liquor arsenici hydrochloricus, so that a sediment was formed consisting mainly of undissolved strychnia. The danger of such a combination has already been pointed out in THE LANCET of Feb. 11th, 1899 (p. 393), in an annotation relative to this case. The trial took place before Mr. Justice Morice and a burgher jury, occupied five days, and terminated on March 8th in a verdict of acquittal. It was stated that the medicine was made up by a legally qualified dispenser and on this ground the judge directed the jury that the accused was not responsible for the misuse of the alkaline solution. Of course, a charge of culpable homicide was quite out of proportion to the offence. The case was obviously one of misadventure to which the accused was an accessory, and it painfully illustrated the obligation which rests on all prescribers to avoid the use of ambiguous abbreviations and to be very precise when ordering poisonous drugs.

THE PREVENTIVE TREATMENT OF BERI-BERI.

"HAVING had occasion to observe at Chantaboun during the month of September, 1898, an epidemic of beri-beri, short since it lasted only a few weeks, but intense since out of 260 tirailleurs forming the garrison it struck 53, causing 10 deaths, we saw it—whilst still at the height of its intensity, the two days preceding having given us nine new cases—suddenly cease within 48 hours under the influence of a modification of the alimentary regimen consisting in an abundant distribution of fatty matters to an entire group who did not consume any previously." The foregoing is a literal translation of the opening paragraph in an article which appears in the *Archives de Médecine Navale* for March, 1899, the author being Dr. L. Laurent, a junior medical officer attached to the French army of occupation in Siam. The presumption that fatty food is a prophylactic against the disease seemed to be strong but, as it happened, further confirmation was at hand. "A few weeks later at Poulo-Condore," continues Dr. Laurent, "a second epidemic—very much longer and more serious since in a year it had made upwards of 360 victims—ceased in the same sudden fashion under the influence of a similar regimen when applied to the convicts in this penitentiary establishment by our comrade, Dr. Andrieux. In the one case as in the other from the moment the fat-containing regimen was given to individuals still in health not a single fresh attack manifested itself among them and the epidemic could be regarded as definitively terminated." It was from the lectures on exotic pathology which were delivered by Dr. Brémaud in 1892-93 that Dr. Laurent derived his inspiration. According to Dr. Brémaud beri-beri is a dyscrasia of alimentary origin, being due to the deficiency, partial or complete, of fatty ingredients in the food, and occurring in hot climates much in the same way as scurvy occurs in temperate regions when there is deprivation of meat and fresh vegetables. Dr. Brémaud's views were purely theoretical, as he never had had the chance of practically verifying them; but now (exclaims his disciple) they have received "experimental consecration." Dr. Laurent, however, is careful to add that he does not attribute an exclusive rôle to the deprivation of fatty matters in the genesis of beri-beri. Many factors have to be considered,

but in his opinion the absence of suitable food is undoubtedly the principal one. As soon as he had decided on his course of action Dr. Laurent, considering that reference to Saigon for permission meant a fortnight's delay, prevailed on the local commandant to sanction an alteration of the soldiers' ration. Hitherto each man had been in receipt of 12 meals of fresh beef and two of preserved beef per week, but under the new order he drew 11 meals of pork with fresh vegetables and only three of fresh beef, the issue of preserved meat being entirely suspended. "The result was not long in abeyance; the epidemic was at once rooted out. ..... The cause which we considered the probable one being removed the effect disappeared and to-day, three months later, the same alimentary modifications having been conserved, has not reappeared." The idea that beri-beri is determined by improper food is not a new one. As far back as 1883 Dr. Kanehiro Takaki came to the conclusion that the cause of "kak'ke," as the disease is called in Japan, was to be sought for in a defective dietary. In the Japanese navy in 1882 and 1883 the deaths from beri-beri numbered 51 and 49 respectively, while the ratio of cases to strength was 404·4 and 231·2 per 1000. At the suggestion of Dr. Takaki the naval ration was then remodeled, when immediately an improvement became manifest. In 1884 only eight deaths were registered and the sick rate fell to 127·3 per 1000. This was a notable triumph, but as yet the full effects of the judicious diet had not appeared. In 1885 there were no deaths at all from "kak'ke" or beri-beri and the sick-rate was only 5·9 per 1000. In 1886 the death column continued blank and no more than three cases of the disease were entered, yielding an insignificant rate of 0·3 per 1000. In the following year both columns remained blank, and so, with a trifling exception in 1889, it has happily continued ever since.

"THE CHEMISTRY OF SAUSAGES."

WITH reference to the remarks published under the above heading in our issue of April 8th a lurid light is thrown upon the composition of these "delicacies" by a trial held at Dover on April 7th of a butcher's agent for overcrowding cattle. In one case a cow was found to be in such a bad condition on its arrival at Dover from Ashford that it had to be killed there and then. According to the report in the *Daily Chronicle* the carcass, which was stated to be one mass of bruises and to show a great amount of congealed blood under the skin when this was removed, was sent to the local sausage factory. We earnestly hope that the sanitary authorities of Dover will keep an eye upon the local sausage factory. The magistrates held that cruelty was not proved against the prisoner, which doubtless was the case, but it is pretty obvious that someone had been cruel and also that if the local sausage factory is allowed to go on its career unchecked several people will run a fair chance of being poisoned.

A SANATORIUM FOR PHTHISICAL PATIENTS AT THE CAPE.

DR. OSCAR LEVY writes to us to draw attention to a new sanatorium recently promoted at Harrismith in the Orange Free State. It is claimed, says Dr. Levy, that Harrismith possesses exceptional climatic advantages, such as dryness, a sunny sky, elevation, and bracing climate. An account of the district sent out by a layman interested in the scheme states:

The town has a very excellent water-supply. The main part of the sanatorium is to be erected against the side of a hill, 5400 feet above the sea and about 25 minutes' walk from the town in a well-sheltered position. Barely three miles from that spot and just near to the town there rises the great Platberg. It has an altitude of almost 8000 feet above the sea. The summit of this mountain is in extent about three and a half English square miles. Owing to the peculiar formation of the mountain its summit has likewise a splendid water-supply. On this mountain or near its summit lightly constructed summer-houses are to be erected for the patients. In the same district is another mountain where at an elevation of not far from 10,000 feet a second summer-house might be established later. This last-mentioned mountain, notwithstanding its elevation of over 11,000 feet, keeps free from snow. All these localities are situated in such a manner that they experience almost always the same weather. By this circumstance and the difference in the height of these sites a very excellent opportunity would be given for observing more especially the effects of altitude on the disease.

The promoters of the scheme state candidly that they are not medical men, but they are desirous of obtaining the opinions of the profession on the scheme. All we can say is that if the climatic conditions are really such as are put forward in this prospectus, then the district should be eminently fitted for a sanatorium.

THE MIDWIVES BILL.

THE Bill for the Registration of Midwives came on somewhat unexpectedly on Wednesday evening when Mr. Tatton Egerton moved the second reading, stating his belief that the Bill had received the acceptance of the medical profession. Mr. T. P. O'Connor moved the adjournment of the debate on the ground that the measure was of too great importance to be discussed at so late an hour in the afternoon, while he denied that the medical profession was unanimous in favour of it. The Speaker declined to accept the motion as the debate was due by rule to be adjourned in a few minutes, and Sir William Priestley, who is understood to be a supporter of the measure, talked it out.

MULTIPLE AMŒBIC ABSCESS OF THE LIVER WITHOUT DYSENTERY.

IN the "Proceedings of the Philadelphia Pathological Society" of January Dr. Joseph T. Buxton has recorded an instance of multiple amœbic abscess of the liver without dysentery—a case of some importance since Dr. Lafleur, writing in Allbutt's "System of Medicine," declares that "amœbic abscess of the liver must for the present be considered as invariably secondary to active or latent amœbic dysentery." A woman, aged 41 years, was admitted to hospital. Her chief complaint was of weakness and tenderness in the right side of the abdomen. Four weeks previously she began to grow weak, her appetite failed, and she was exhausted on the least exertion. At times there was nausea after eating. The bowels were loose during the whole illness. No history of dysentery could be elicited. The patient was emaciated. The skin had a peculiar dirty and yellow appearance and was a little cyanosed. The conjunctivæ were somewhat icteroid. The tongue was dry and parched and was covered with a brownish fur. The pulse was rapid and thready. The abdomen appeared to be distended. Liver dulness began at the fourth space and extended two fingers' breadth below the level of the umbilicus. The right lobe was distinctly palpable and irregular; the surface was smooth and tender at points. The left lobe could not be felt and was not tender. The feet were œdematous and there was albuminuria. On the third day after admission abdominal tenderness was much more marked and more general and the area of hepatic dulness had increased, extending to the crest of the ilium. The edge of the left lobe could now be felt extending about two fingers' breadth below the costal margin. A nodule could be felt upon the surface of the right lobe. The bowels were regular and the stools were normal. On the fifth day tenderness was extreme over the left lobe of the liver which now extended four fingers' breadth below the costal

margin. The pulse was weak and rapid and respiration was laboured. On the sixth day a little blood was vomited with food; the body was cold and cyanosed and the patient died. At the necropsy the liver was found to be riddled with abscesses containing greenish-yellow pus. The right lobe contained four, varying from the size of a walnut to that of a small orange; the left lobe contained one of the size of a walnut. Both large and small intestines appeared to be normal and no healed ulcers indicative of recent dysentery could be found. The pus of the abscesses contained the amœba coli.

A MEDICAL JOURNALIST.

THE *Journalist* of March 11th, an American paper "devoted to all who make or read newspapers," contains an interesting biographical sketch of Dr. George F. Shrady, editor of the *New York Medical Record*. After alluding to the high position held by Dr. Shrady both as a surgeon and as a writer, the fact is mentioned that for 32 years continuously Dr. Shrady has been editor of the *Medical Record* and that "under his guiding brain and management his journal has become *The Lancet* of the West." It would seem from this article that a distinguished medical man in the United States has one duty to perform at all times and uncomplainingly from which his British brothers are free. He must be at home to interviewers, and if an epidemic breaks out or some celebrated case in connexion with medicine engages the attention of the law courts they swoop down upon him relentlessly. This was especially Dr. Shrady's case during the illness of the late General Grant who was his patient. The incident in Dr. Shrady's life of which he is stated by the *Journalist* to be most proud is his successful support of a movement for the erection of a monument to Dr. J. Marion Sims. "It will be recalled," says the *Journalist*, "that Dr. Sims was of Southern birth and sympathies and that shortly after the Civil War he established himself in Paris and suddenly rose to commanding eminence in his speciality throughout Europe. In preparing to return to America the proposition was to join himself in partnership with Dr. Shrady, when an agreement was made between them that the one surviving the other should write the deceased's biography." Dr. Shrady interpreted his responsibility towards his friend's memory in a liberal manner, for he was not content with mere words but secured the erection of a statue.

GARBAGE-MONGERS.

WE are thankful to say that at length it seems as if the scoundrels who make their living by poisoning their neighbours will be compelled to admit that the game is not worth the candle. On March 16th two brothers named Hartridge were each sentenced to four months' hard labour for having a quantity of putrid meat for the purpose of preparation for sale. Having appealed, however, they are still at large.—On April 6th Joseph Fells and Vernon Fells were, at the Thames police-court, charged with having on their premises a quantity of tinned food which was unfit for the food of man. The stuff included milk, salmon, pineapple, peaches, and lobster. There were also 1373 tins of bad sardines. Mr. F. W. Alexander, the medical officer of health of Poplar, said that Mr. Palmer, manager to Mrs. Fukes of Stainsby-road, Poplar, asked him on March 1st to give an order to destroy some tins of lobster as trade refuse. There were 185 tins in all and he opened 166, all of which were bad. Mr. Dickinson sentenced Joseph Fells to four months' hard labour and 20 guineas costs. Vernon Fells, who was young, was discharged with a caution. Fells, it will be noticed, did not appeal.—On April 7th Henry Pullen appeared at the same court to answer the charge of having in his possession diseased meat intended for the food of man. The food consisted of four tuberculous quarters of a cow and a liver which was full of abscesses. Mr. Pullen said that when buying the cow he found fault with it so as to get it as cheap as he could. He then sold it as the best meat. That was how he got his living. It was a trick of the trade. The cow in question, it was stated, had cost £6. We rejoice to see that the latest trick of the trade has cost Mr. Pullen £30 fine and £7 7*s.* costs. Mr. Pullen's address is 210, Devon's-road, Bromley-by-Bow.

THE Pasteur monument at Lille and the new buildings of the Pasteur Institute which owe their existence to the generosity of Dr. Calmette were opened on April 9th. We hope to give a detailed account of the proceedings nex week.

WE regret to learn the death of Mr. Jukes de Styrap, the well-known author of "A Code of Medical Ethics," which has occurred at his residence in Shrewsbury. Mr. de Styrap was in his eighty-fourth year.

THE PREVENTION OF TUBERCULOSIS.

(Continued from p. 972.)

BELFAST.

AT a meeting convened by the Lord Mayor of Belfast in the City Council Chamber on April 4th, Sir William Broadbent, Bart., delivered an address on the Prevention of Tuberculosis. After explaining the constitution and mode of action of the National Association for the Prevention of Consumption and other Forms of Tuberculosis he said that it was fitting that Belfast should take a prominent position in this movement as a medical practitioner of that city—the late Dr. Henry MacCormac—was a pioneer in the preventive treatment of phthisis and preached ventilation both by way of prevention and cure. Sir William Broadbent pointed out that to herd phthisical patients together in a special hospital, as had formerly been the practice, with double windows to prevent the access of cold air, was really to intensify the mischief, while to disseminate phthisical patients in any considerable numbers through the wards of a general hospital was attended with risk of doing harm. It was not therefore to be wondered at that the best treatment for phthisis did not originate with hospitals or hospital physicians, but by the operation of general hygienic laws phthisis had diminished by 50 per cent. during the last 50 years; still one-seventh of the deaths in the British Islands was due to phthisis and about 70,000 people died from phthisis or tuberculous disease every year in Great Britain and Ireland. Sir William Broadbent then in a popular way pointed out how the disease was spread by the dried expectoration of phthisical patients being converted into dust and inhaled, the essential element in the dust being the bacillus to which sunlight and fresh air were fatal; and in out-door life, ventilation, open windows, and sunlight penetrating to every part of a dwelling they had important agents in the prevention of phthisis. He emphasised the importance of destroying the expectoration. The association felt that they could not adopt the view that phthisis should be notified like fevers. Sir William Broadbent then referred to the question of heredity or constitutional predisposition and showed how immunity might be brought about, discussing the influence of food, sunlight, fresh air, exercise, and alcohol. He thought that the facts which gave rise to the idea that phthisis was completely hereditary were capable of explanation by considering that members of the same family were exposed to the same conditions, especially damp and ill-ventilated houses. He advocated the thorough disinfection of all rooms which had been occupied by phthisical subjects and in this way the death certificate might be used as a notification of disease. He traced the influence of the spread of the disease by milk and in this matter of milk the spirited action of far-seeing farmers and of different municipalities would lead, he believed, to the

realisation of the object which they all desired—the entire elimination of tuberculous meat and milk from the supply. Finally, he discussed the question of the open-air treatment and said he believed that for the cure of phthisis they required plenty of fresh air and so far as they could secure it protection from dust and winds, together with as much sunshine as possible. Every large centre of population should have close at hand or within easy reach some place where the open-air treatment of phthisis could be carried out, and he thought that municipalities would come to recognise that it was cheaper to send their phthisical patients to a place where there would be a chance of recovery than simply to house them in infirmaries until they died. At the conclusion of Sir William Broadbent's address, on the motion of the Marquis of Dufferin, seconded by the President of the North of Ireland Branch of the British Medical Association (Dr. Henry O'Neill), it was decided to approve of the constitution of a branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, and that those present should form themselves into such. Office-bearers of the branch having been appointed, the meeting concluded with votes of thanks to Sir William Broadbent and the Lord Mayor (who presided). After the meeting was over the Lord Mayor entertained at luncheon in one of the committee-rooms of the Town Hall Sir William Broadbent and other friends who had been present.

ABERDEEN.

Dr. Matthew Hay, the medical officer of health of Aberdeen, has, in accordance with instructions to that effect, just submitted to the Public Health Committee of the Town Council of that city suggestions for the prevention and control of tuberculous disease. The report points out that tuberculous disease destroys in Aberdeen about 350 persons every year and is accountable for one out of every seven deaths, or, taking into account the deaths of children registered as due to ill-defined causes, Dr. Hay believes "that tubercle, directly or indirectly, determines nearly one-fifth of all the deaths within the city." After referring to the wide dissemination of tuberculous disease and its curability the report states that efforts to prevent tubercle must be largely directed against the transmission of the tuberculous infection or germs from already infected human beings or from infected animals. It is remarked that owing to general sanitary reforms and an improved standard of living the mortality from tuberculous diseases, especially from phthisis, has declined greatly within the past 40 years, having fallen in the case of phthisis in Aberdeen to nearly one-half of that which it formerly was, but that there is still large scope for improvement. Numerous suggestions are then made for the more effective control and prevention of the spread of tuberculous disease within the city. These relate (1) to the purity of air in the atmosphere, in dwelling-houses, in schools, and in workshops, and under this branch a stricter enforcement of the enactments for the abatement of smoke from the chimneys of workshops and manufactories in Aberdeen is recommended; (2) to proper feeding; (3) to proper clothing; and (4) to physical exercise. Then follow detailed precautions applicable to the community and to persons suffering from tuberculous disease respectively, and suggestions for the prevention of the spread of tuberculous infection from the lower animals. Dr. Hay's chief suggestions are—the direction of the attention of keepers of hotels, restaurants, and eating-houses to the necessity for great care in the cleansing of eating-utensils; the preparation under Section 65 of the Public Health (Scotland) Act of suitable by-laws for regulating the cleansing and sanitary condition generally of public conveyances; the consideration of the question of a sanatorium (in the country) for phthisical patients, and of the associated out-door or dispensary arrangements; the consideration of a scheme for the inspection of cows in all dairies supplying milk to the city, with a view to preventing the sale of tubercle-infected milk; and the consideration of the question of providing a public sterilising station for milk. Dr. Hay also makes recommendations to the Town Council as to the cleansing of foot pavements, &c.; the systematic securing of open spaces for recreation; the provision of public gymnasia with, if possible, public baths attached; the formation or encouragement of cottage areas and the discouragement of the tenement system of housing; the hastening of the demolition of slum dwellings; obtaining power to raise the minimum cubic space for each person in the dwelling-houses; memorialising the Home Secretary as to increasing the minimum cubic space for persons in workshops; obtaining power to prohibit the opening in future of underground workshops; obtaining power to increase the amount of open area required for all new houses, and the establishment of a public slaughter-house. Regarding the last-mentioned question—viz., that of a public abattoir—Dr. Hay regrets that when the proposal was recently before the Town Council it met with a discouraging result. The memorandum will be considered at as early a date as possible by the Public Health Committee, the members of which are understood to be desirous of something practical being done in Aberdeen in helping on the "new crusade" against tuberculosis. The convener (or chairman) of the committee is Mr. John Robertson, L.R.C.P. & S. Edin.

BRISTOL.

Meetings have been held in Bristol in connexion with the National Association for the Prevention of Consumption and Other Forms of Tuberculosis, and a provisional committee of medical men has been formed, with Dr. E. Long Fox as chairman, Dr. D. S. Davies as vice-chairman, Dr. P. Watson Williams as honorary treasurer, and Dr. Michell Clarke as honorary secretary.

KANTHACK MEMORIAL FUND.

THE following is a list of the subscriptions which have been received for the Kanthack Memorial Fund, concerning which we have already written in THE LANCET. Dr. J. H. Drysdale, 25, Welbeck-street, W., is acting as honorary secretary. We understand that the Fund will shortly be closed, so that intending subscribers should make no delay in sending their contributions.

	£	s.	d.
Amount already acknowledged in THE LANCET	267	11	0
Dr. H. P. Cholmeley	1	1	0
Dr. J. S. Edkins	5	5	0
Mr. W. E. Sargant	1	1	0
Mr. T. R. Smith	2	2	0
Mr. R. C. Ackland	2	2	0
Dr. W. Osler, F.R.S. (Baltimore)	10	10	0
Lord Lister	10	10	0
Mr. Alfred Willett	10	10	0
Sir Richard Thorne, K.C.B.	2	2	0
Mr. Stephen Paget	1	1	0
Dr. John Fawcett	1	1	0
Mr. C. H. Cosens	5	5	0
Dr. J. R. Leeson	1	1	0
Dr. J. Calvert	5	5	0
Dr. G. C. Garratt	3	3	0
Mr. R. A. Walter	2	2	0
Dr. J. D. Rawlings	2	2	0
Dr. W. Black Jones	1	1	0
Mr. J. Ackery	3	3	0
Dr. Arthur Latham	10	10	0
Mrs. Unwin	5	0	0
Dr. A. B. Green	5	0	0
Dr. G. Walker	1	0	0
Mr. H. S. Wellcome	5	5	0
Dr. C. F. Marshall	1	1	0
Dr. E. Clifford Beale	3	3	0
Dr. T. P. Legg	1	0	0
Dr. A. B. Rendel	5	5	0
Anonymous	1	1	0
Mr. J. H. Churchill	1	1	0
Mr. Claud Worth	1	1	0
Mr. Ernest Clarke	2	2	0
Dr. H. J. Bumsted	5	0	0
Mr. D. H. F. Cowin	0	10	0
Dr. J. G. Forbes	1	0	0
Mr. Albert Norman	5	5	0
Dr. A. M. Mitchell	2	2	0
Dr. H. H. Tooth	5	5	0
Dr. A. Lyndon	2	2	0
Dr. J. L. Maxwell	1	1	0
Dr. R. A. Yeld	0	10	0
Mr. T. G. A. Burns	5	0	0
Dr. A. G. Penny	1	1	0
Mr. E. C. Frend	0	10	6
Dr. A. L. Ormerod	1	1	0
Dr. E. W. Ormerod	1	1	0
Dr. A. F. Stabb	5	5	0
Mr. E. W. Brewerton	2	2	0
Dr. Mabyn Read	1	1	0
Dr. M. L. Hepburn	1	1	0
Dr. R. Farrar	1	1	0
Dr. W. J. Horne	2	2	0
Mr. G. J. Briggs	1	1	0
Dr. T. H. Molesworth	1	1	0
Dr. P. Horton-Smith	2	2	0
Dr. F. W. Robertson	1	1	0
Mr. F. Belben	2	2	0
Dr. C. Balfour Stewart	5	5	0
Dr. C. Neill	10	10	0
Dr. C. Addison	2	2	0
Dr. E. F. Trevelyan	3	3	0
Dr. W. B. Addison	1	1	0
Mr. A. Cuddon-Fletcher	1	1	0
Dr. G. H. Sowry	1	1	0
Dr. R. Sevestre	2	2	0
Dr. J. Holiday	1	1	0
Total	£459	2	6

THE MEDICAL DEFENCE UNION.

ANNUAL GENERAL MEETING.

THE annual general meeting of the Medical Defence Union was held on April 6th at St. Martin's Town Hall. The President, Dr. W. S. A. GRIFFITH, was in the chair. After the minutes of last year's annual meeting had been confirmed and signed, the report and statement of accounts for the year 1898 were presented.

The report, of which we gave a *résumé* last week, dealt exhaustively with the aims of the society and its work during the past year and laid special stress on the fact that

the chief duty of the Union is the defence of its members and not the benefit of the profession as a whole, which is more properly the work of the General Medical Council and the British Medical Association. It suggested that much might be done to increase the numbers of the Union if the members, especially those who had received the full benefits of the society, would make more generally known the great advantages attached to membership. The Council regretted having had to take strong measures to secure more prompt payment of subscriptions which were allowed to fall in arrear. The report further stated that owing to the able way in which the Union carried on its work, the British Medical Association had considered it unnecessary to take up the work of medical defence. The solicitor's report stated that though there had been fewer cases than in the previous year more important decisions had been involved and that this reduction in number was a healthy indication of the growing influence of the Union's weight. The chief cases considered by the Council were enumerated and they served to show the vast amount of good work done by the Union on behalf of its members and of the whole profession.

The CHAIRMAN, in moving the adoption of the report, said that it was a matter of doubt to the Council whether members read the report which was sent to them and whether they had any idea of the amount of work done. The work was increasing yearly as shown by the report and it involved a considerable sacrifice of time. The meetings of the Council had now to be as frequent as two a month and many had to be adjourned. The success of the Union was largely dependent on the zeal of the secretary and the solicitor, and this year it was specially indebted to the additional work done by the treasurer during the secretary's illness and he thought that this additional work should be recognised in some suitable way. He had no special statement to make with regard to the policy of the Union. The solution of many important questions now agitating the profession might be thought a part of their duties, but owing to the great difference of opinion prevailing among medical men who make no real attempt to meet each other half-way the settlement of such vital questions could not be expected yet. On one point the Union was unanimous and that was that its duty was to defend every member of the Union who is attacked unfairly to the utmost of its power, and therefore it is inclined to take the work which lies before it rather than to deal with matters which the profession is not prepared to accept. The question of the qualification of members was a matter which had been referred to the Executive Committee to report upon.

Mr. STAMFORD FELCE, in seconding the motion, congratulated the President, who had succeeded Mr. Victor Horsley, on the ability with which he had discharged his duties.

Mr. E. C. BOUSFIELD objected to the Council not having drawn up a schedule of cases, as, in his opinion, if such a schedule were forwarded to each member of the profession it would have a great deal of effect as an actual statement of the work done and might be a means of increasing the membership.

The motion for the adoption of the report was then carried unanimously.

Dr. W. S. A. Griffith, Dr. A. H. Jones, and Mr. T. Garrett Horder, the retiring members of the Council, were re-elected.

Dr. J. A. MASTERS, in proposing that the accounts as audited by Mr. Lewis Hardy be received, adopted, and entered on the minutes, said that no mention had been made of the work done by the honorary secretary, Dr. H. Campbell Pope, in the absence of the general secretary. He was glad to say that the financial position of the Union was very gratifying.

Mr. Lewis Hardy was elected auditor for the ensuing year. A sum not to exceed £100 was allotted *pro ratâ* to the provincial members of the Council as payment or part payment of their railway fares whilst attending Council and Executive Committee meetings.

Dr. DANFORD THOMAS then moved:—

That this meeting of members of the Medical Defence Union, believing that no effectual legal action can be successfully taken against quacks and other unregistered and unqualified persons practising medicine for gain under the provisions of the present Medical Acts, does consider that the time has arrived for the promotion of a Bill in Parliament for the amendment of the same and that this meeting would further suggest that the Council of this Union should take such action in the matter, or in conjunction with other associations take such measures as may be deemed advisable in assisting and supporting such amended legislation as may effectually protect the interests of the medical profession as well as those of the public generally.

Dr. W. P. HERRINGHAM, who seconded the motion, remarked that this was one of the most important things now before the profession and that there was nothing more important than to have its legal position more firmly established.

Dr. LOVELL DRAGE, coroner for Hertfordshire, said that, in the small experience which he had had, evidence was frequently given by unqualified and unregistered people who were sometimes supported by certificates issued by registered practitioners; this appeared to him to be a matter which the Union could remedy without going to Parliament.

The CHAIRMAN said that whatever assistance ought to be given by the Union would be given, but it was neither just nor right to expend the money subscribed by 4000 members of the profession for the benefit of the whole.

The motion was then unanimously adopted and the meeting terminated.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6481 births and 4755 deaths were registered during the week ending April 8th. The annual rate of mortality in these towns which had been 23·1 per 1000 in each of the two preceding weeks declined last week to 21·7. In London the rate was 20·8 per 1000, while it averaged 22·4 in the 32 provincial towns. The lowest death-rates in these towns were 11·8 in Cardiff, 16·1 in Bolton, 16·3 in West Ham, and 16·6 in Gateshead; the highest rates were 26·7 in Halifax, 27·5 in Brighton, 28·1 in Burnley, and 39·9 in Wolverhampton. The 4755 deaths in these towns included 379 which were referred to the principal zymotic diseases, against 397 and 401 in the two preceding weeks; of these, 125 resulted from whooping-cough, 85 from measles, 75 from diphtheria, 39 from "fever" (principally enteric), 33 from diarrhœa, and 22 from scarlet fever. The lowest death-rates from these diseases were recorded in Bolton, Croydon, Bradford, and Bristol; and the highest rates in West Ham, Manchester, Burnley, and Huddersfield. The greatest mortality from measles occurred in Manchester and in Gateshead; from whooping-cough in Birkenhead, Burnley, Preston, Halifax, Hull, and Sunderland; and from "fever" in Wolverhampton, Derby, and Salford. The mortality from scarlet fever showed no marked excess in any of the large towns. The 75 deaths from diphtheria included 34 in London, seven in Sheffield, four in Portsmouth, four in Liverpool, four in Leeds, three in Swansea, three in Birmingham, and three in Leicester. No fatal case of small-pox was registered last week in any of the 33 large towns, and only one small-pox patient was under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 8th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2234, against numbers declining from 2584 to 2322 on the five preceding Saturdays; 150 new cases were admitted during the week, against 224, 177, and 167 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 604 and 505 in the two preceding weeks, further declined last week to 470, but were 93 above the corrected average. The causes of 69, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Nottingham, Salford, Bradford, and in eight other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Blackburn, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had increased in the three preceding weeks from 21·0 to 23·3 per 1000 declined again to 21·8 during the week ending April 8th, and slightly exceeded the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 17·7 in Edinburgh and 17·9 in Greenock to 25·7 in Dundee and 27·3 in Aberdeen. The 665 deaths in these towns included 23 which were referred to whooping-cough, 22 to measles, 20 to diarrhœa, nine to diphtheria, three to scarlet fever, and two to "fever." In all, 79 deaths resulted from these principal zymotic diseases, against 67 and 97 in the two preceding weeks. These 79 deaths were equal to an annual rate of 2·6 per 1000 which was 0·9 above the mean rate last week from the same diseases in the

33 large English towns. The fatal cases of whooping-cough which had been 22 and 30 in the two preceding weeks declined again to 23 last week, of which nine occurred in Edinburgh, six in Glasgow, and four in Dundee. The 22 deaths referred to measles showed a decline of three from the number recorded in the preceding week, and included nine in Glasgow, six in Aberdeen, and four in Edinburgh. The fatal cases of diphtheria which had been two in each of the two preceding weeks rose to nine last week, of which four occurred in Dundee, three in Aberdeen, and two in Glasgow. The deaths from scarlet fever which had been six and four in the two preceding weeks further declined to three last week. The deaths referred to diseases of the respiratory organs in these towns which had been 151 and 160 in the two preceding weeks declined to 144 last week, and were 13 below the number in the corresponding period of last year. The causes of 28, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin which had been 31·9 and 31·6 per 1000 in the two preceding weeks rose again to 32·8 during the week ending April 8th. During the 13 weeks of last quarter the rate of mortality in the city averaged 29·6 per 1000, the rate during the same period being 20·5 in London and 23·9 in Edinburgh. The 220 deaths registered in Dublin during the week under notice showed an increase of eight upon the number in the preceding week, and included 15 which were referred to the principal zymotic diseases, against eight and 12 in the two preceding weeks; of these, five resulted from whooping-cough, five from "fever," three from diphtheria, two from measles, and not one either from small-pox, scarlet fever, or diarrhœa. These 15 deaths were equal to an annual rate of 2·2 per 1000, the zymotic death-rate during the same period being 1·7 in London and 2·6 in Edinburgh. The fatal cases of whooping-cough which had been two and three in the two preceding weeks further rose to five last week. The deaths referred to different forms of "fever" which had been four and two in the two preceding weeks rose to five last week. The three fatal cases of diphtheria showed a further increase upon recent weekly numbers. The 220 deaths in Dublin last week included 33 of infants under one year of age and 67 of persons aged upwards of 60 years; the deaths of infants showed a slight further decline, while those of elderly persons showed a further increase upon the numbers recorded in recent weeks. Eight inquest cases and nine deaths from violence were registered; and 85, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING MARCH, 1899.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during March in each of the 43 sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 6·7 per 1000 of the population, estimated at 4,546,752 persons in the middle of this year. In the three preceding months the rates had been 9·5, 9·2, and 8·5 per 1000 respectively. The rates were considerably below the average in St. George Hanover-square, Marylebone, Hampstead, Stoke Newington, Holborn, and Shoreditch; while they showed the largest excess in Fulham, St. Saviour Southwark, Newington, Bermondsey, Rotherhithe, Lewisham, and Plumstead sanitary areas. Two cases of small-pox (one in Camberwell and one in Port of London sanitary areas) were notified in London during March, and only one small-pox patient was under treatment in the Metropolitan Asylum Hospitals at the end of last month. The prevalence of scarlet fever in London showed a further decline from that recorded in the two preceding months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Clerkenwell, Rotherhithe, Greenwich, Lewisham, Woolwich, and Plumstead. The Metropolitan Asylum Hospitals contained 2272 scarlet fever patients at the end of March, against 2383, 2637, and 2535 at the end of the three preceding months; the weekly admissions averaged 196, against 239 and 236 in the two preceding months. The prevalence of diphtheria in London during March showed a marked decline from that recorded in recent months; this disease was proportionally most prevalent in Hackney, St. George-in-the-East, St. Saviour Southwark, St. George Southwark, Newington, Bermondsey, Battersea, and Lewisham sanitary areas. There were 1159 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of March, against 1239, 1358, and 1388 at the end of the three preceding months; the weekly admissions averaged 127, against 173, 166, and 172 in the three preceding months. The prevalence of enteric fever in London showed a considerable further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Hammersmith, Holborn, St. Luke, City of London, and Limehouse. The Metropolitan Asylum Hospitals contained 148 enteric fever patients at the end of March, against 255, 249, and 215 at the end of the three preceding months; the weekly admissions averaged 19, against 36, 34, and 27 in the three preceding months. Erysipelas was proportionally most prevalent in Paddington, Bethnal Green, Whitechapel, St. Saviour Southwark, and Rotherhithe sanitary areas. The 25 cases of puerperal fever notified in London during March included two each in Paddington, Fulham, Stoke Newington, Bethnal Green, Poplar, Battersea, and Wandsworth sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the five weeks ending April 1st, the deaths of 9699 persons belonging to London were registered, equal to an annual rate of 22·2 per 1000, against 16·9, 17·0, and 20·3 in the three preceding months. The lowest death-rates in the various sanitary areas were 13·6 in Hampstead, 13·7 in Plumstead, 15·4 in Stoke Newington, 17·1 in Lewisham (excluding Penge), 17·2 in St. George Hanover-square, and 17·5 in Wandsworth; the highest rates were 27·8 in Chelsea, 27·9 in Shoreditch and in St. George Southwark, 29·9 in Holborn, 31·6 in St. Luke, 33·2 in City of London, and 33·8 in St. Olave Southwark. During the five weeks of March 830 deaths were referred to the principal zymotic diseases in London; of these, 179 resulted from measles, 31 from scarlet fever, 194 from diphtheria, 339 from whooping-cough, 35 from enteric fever, one from an ill-defined form of continued fever, 51 from diarrhœa, and not one either from small-pox or from typhus fever. These 830 deaths were equal to an annual rate of 1·9 per 1000, against 1·5 and 1·6 in the two preceding months. No death from any of these zymotic diseases was recorded last month either in Strand or in Plumstead sanitary areas; in the other sanitary areas they caused the lowest death-rates in Paddington, St. George Hanover-square, Stoke Newington, St. Giles, and St. Martin-in-the-Fields; and the highest rates in Fulham, St. Pancras, Holborn, Clerkenwell, St. George-in-the-East, Limehouse, St. Saviour Southwark, and Newington. The 179 fatal cases of measles were 143 below the corrected average number in the corresponding periods of the 10 preceding years; this disease showed the highest proportional fatality in Hackney, St. Luke, Bethnal Green, St. George-in-the-East, Limehouse, and Lee sanitary areas. The 31 deaths referred to scarlet fever were less than half the corrected average number; the mortality from this disease showed no marked excess last month in any of the sanitary areas. The 194 fatal cases of diphtheria slightly exceeded the corrected average number; this disease showed the highest proportional fatality in Fulham, Bethnal Green, St. George-in-the-East, Limehouse, St. Saviour Southwark, Newington, Bermondsey, and Lewisham sanitary areas. The 339 deaths from whooping-cough were 12 above the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Hammersmith, Fulham, Chelsea, St. Pancras, Newington, and Rotherhithe. The 35 deaths from enteric fever were within one of the corrected average number; this disease showed the highest proportional fatality in the City of London and Greenwich sanitary areas. The 51 deaths from diarrhœa were 16 below the corrected average number. In conclusion, it may be stated that the aggregate mortality in London last month from these principal zymotic diseases was more than 18 per cent. below the average.

Infant mortality in London during March, measured by

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1899.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1899.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,546,752	2	1286	993	3	157	3	25	410	—	2919	6·7	—	179	31	194	339	—	35	1	51	830	1·9	9699	22·2	144
West Districts.																										
Paddington	128,794	—	20	14	—	4	—	2	18	—	58	4·7	—	1	—	1	7	—	—	—	1	10	0·8	238	19·3	101
Kensington	172,899	—	25	17	—	9	—	—	20	—	71	4·3	—	1	1	3	12	—	1	—	2	20	1·2	365	22·0	165
Hammersmith	108,785	—	29	14	—	9	—	1	10	—	63	6·0	—	4	1	4	13	—	1	—	1	24	2·3	275	26·4	187
Fulham	130,720	—	79	36	—	3	1	2	15	—	136	10·8	—	—	1	10	20	—	—	1	3	35	2·8	304	24·3	183
Chelsea	96,721	—	26	17	—	3	—	1	6	—	53	5·7	—	—	—	3	19	—	1	—	—	23	2·5	258	27·8	152
St. George Hanover-square	80,876	—	14	5	—	2	—	—	5	—	26	3·4	—	—	—	1	—	—	1	—	1	3	0·4	133	17·2	133
Westminster	52,117	—	6	12	—	2	—	—	4	—	24	4·8	—	—	—	2	—	—	1	—	2	5	1·0	132	26·4	218
St. James Westminster	21,827	—	3	6	—	—	—	—	2	—	11	5·3	—	—	—	1	1	—	—	—	—	2	1·0	54	25·8	222
North Districts.																										
Marylebone	140,139	—	25	8	—	4	—	—	13	—	50	3·7	—	—	1	3	7	—	1	—	1	13	1·0	316	23·5	114
Hampstead	80,252	—	13	9	—	3	—	—	1	—	26	3·4	—	6	1	2	2	—	—	—	1	12	1·6	105	13·6	126
St. Pancras	244,548	—	92	50	—	16	—	1	14	—	173	7·4	—	12	5	8	40	—	4	—	3	72	3·1	556	23·7	165
Islington	348,085	—	98	45	—	18	—	1	23	—	185	5·5	—	26	1	7	34	—	5	—	1	74	2·2	736	22·1	139
Stoke Newington	35,187	—	6	3	—	—	—	2	1	—	12	3·6	—	—	—	—	2	—	—	—	—	2	0·6	52	15·4	82
Hackney	222,571	—	69	79	—	13	—	1	22	—	184	8·6	—	25	2	14	7	—	1	—	3	52	2·4	415	19·5	123
Central Districts.																										
St. Giles	37,198	—	8	1	—	1	—	—	5	—	15	4·2	—	—	—	1	—	—	—	—	—	1	0·3	86	24·1	41
St. Martin-in-the-Fields	12,142	—	4	—	—	1	—	—	—	—	5	4·3	—	—	—	—	—	—	—	—	1	1	0·9	23	19·8	231
Strand	23,016	—	4	4	—	—	—	—	1	—	9	4·1	—	—	—	—	—	—	—	—	—	—	—	44	19·9	109
Holborn	29,621	—	2	4	—	3	—	1	1	—	11	3·9	—	2	—	—	3	—	—	—	3	8	2·8	85	29·9	218
Clerkenwell	66,068	—	26	14	—	1	—	—	5	—	46	7·3	—	4	—	4	5	—	1	—	4	18	2·8	163	25·7	197
St. Luke	40,868	—	10	6	—	7	—	—	5	—	28	7·1	—	5	—	—	1	—	1	—	3	10	2·6	124	31·6	138
City of London	27,986	—	7	2	—	4	—	—	1	—	14	5·2	—	—	—	—	1	—	2	—	—	3	1·1	89	33·2	159
East Districts.																										
Shoreditch	121,071	—	13	7	—	11	—	—	13	—	44	3·8	—	9	—	3	9	—	1	—	1	23	2·0	324	27·9	189
Bethnal Green	128,938	—	23	29	—	5	—	2	28	—	87	7·0	—	14	—	10	5	—	1	—	2	32	2·6	298	24·1	138
Whitechapel	81,391	—	13	11	—	3	—	—	15	—	42	5·4	—	6	—	3	4	—	—	—	—	13	1·7	159	20·4	127
St. George-in-the-East	48,560	—	5	18	—	3	—	—	5	—	31	6·7	—	7	1	4	3	—	1	—	—	16	3·4	119	25·6	157
Limehouse	58,807	—	12	11	—	8	—	—	5	—	36	6·4	—	7	—	6	3	—	1	—	1	18	3·2	153	27·1	181
Mile End Old Town	113,161	—	27	15	—	6	—	—	10	—	58	5·3	—	8	2	5	5	—	1	—	—	21	1·9	269	24·8	157
Poplar	170,606	—	39	33	—	9	—	2	19	—	102	6·2	—	6	1	11	6	—	2	—	1	27	1·7	406	24·8	150
South Districts.																										
St. Saviour Southwark	24,207	—	6	13	—	1	—	—	5	—	25	10·8	—	1	—	5	—	—	—	—	1	7	3·0	62	26·7	139
St. George Southwark	60,536	—	14	31	—	3	—	—	4	—	52	9·0	—	3	—	2	4	—	—	—	1	10	1·7	162	27·9	144
Newington	124,166	—	31	70	—	8	—	—	14	—	123	10·3	—	5	1	10	25	—	1	—	2	44	3·7	315	26·7	162
St. Olave Southwark	11,098	—	4	4	—	1	—	—	—	—	9	8·5	—	—	—	2	—	—	—	—	—	2	1·9	36	33·8	139
Bermondsey	85,835	—	20	44	3	3	—	—	6	—	76	9·2	—	1	—	9	8	—	—	—	1	19	2·3	198	24·1	118
Rotherhithe	41,050	—	22	11	—	1	—	—	6	—	40	10·2	—	—	1	2	6	—	—	—	—	9	2·3	83	21·1	83
Lambeth	308,108	—	53	78	—	8	2	—	26	—	167	5·7	—	2	4	17	25	—	3	—	1	52	1·8	622	21·1	122
Battersea	174,996	—	58	65	—	6	—	2	10	—	141	8·4	—	—	—	10	10	—	1	—	2	23	1·4	327	19·5	153
Wandsworth	209,655	—	73	47	—	5	—	2	19	—	146	7·3	—	—	2	6	14	—	—	—	1	23	1·1	351	17·5	138
Camberwell	264,817	1	58	60	—	2	—	1	16	—	138	5·4	—	12	1	11	19	—	—	—	2	45	1·8	494	19·5	127
Greenwich	182,513	—	93	38	—	4	—	1	16	—	152	8·7	—	6	2	5	12	—	3	—	4	32	1·8	368	21·0	144
Lewisham (excluding Penge)	91,027	—	35	36	—	1	—	1	9	—	82	9·4	—	2	1	8	2	—	—	—	1	14	1·6	149	17·1	117
Woolwich	41,542	—	22	8	—	—	—	1	2	—	33	8·3	—	—	1	1	2	—	—	—	—	4	1·0	88	22·1	142
Lee	40,219	—	15	13	—	3	—	—	3	—	34	8·8	—	4	1	—	3	—	—	—	—	8	2·1	76	19·7	151
Plumstead	64,031	—	54	5	—	2	—	1	7	—	99	16·1	—	—	—	—	—	—	—	—	—	—	—	84	13·7	107
Port of London	—	1	—	—	—	1	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 45 cases of membranous croup.

† Including deaths from membranous croup.

the proportion of deaths of children under one year of age to registered births, was equal to 144 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Paddington, Stoke Newington, St. Giles, Strand, Rotherhithe, and Plumstead; and the highest rates in Westminster, St. James Westminster, St. Martin-in-the-Fields, Holborn, Clerkenwell, and Shoreditch.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON SAMUEL WELLESLEY JOHNSON has been placed on the Retired List of his rank.

ROYAL ARMY MEDICAL CORPS.

Captain E. E. Powell assumes medical charge of the Royal Artillery, Mounted Infantry, Royal Engineers, District Staff, and details, North Aldershot. Lieutenant A. E. Weld proceeds to Netley. Lieutenant R. E. G. Phillips has left Woolwich. Surgeon-Lieutenant-Colonel D. M'Fadyen (Medical Reserve of Officers) has been appointed to the medical charge of the station hospital and troops, &c., Inverness. Major J. G. Black has been transferred from Gibraltar to Belfast for duty. Captain J. Robinson embarks for service in the Straits Settlements.

THE PHILIPPINE WAR.

The Americans, under General Lawton, have captured Santa Cruz, the chief city of Laguna de Bay, with relatively very few casualties on their part, according to a recent cablegram received at Washington from General Otis. The insurgent troops have been badly beaten and driven back with a considerable loss in killed, wounded, and prisoners. The condition of the American troops is reported from Manila to be highly satisfactory, the cases of sickness being slight. A good deal of fighting is still going on, but we may hope, as everything is apparently pointing that way, that the Philippine war will soon be over. The insurgents have really nothing to gain by further resistance.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the Directors of the Naval Medical Supplemental Fund, held on April 11th, Inspector-General W. H. Lloyd, M.D., in the chair, the sum of £79 was distributed among the several applicants.

The Surrey, Eastern Counties, Berks, and Kentish Companies, Militia Medical Staff Corps, will be attached to the Royal Army Medical Corps from May 1st till the end of July and will join at Aldershot.

Correspondence.

"Audi alteram partem."

THE OPERATIVE TREATMENT OF THROMBUS IN VARICOSE VEINS.

To the Editors of THE LANCET.

SIRS,—I have read with considerable interest Mr. Pearce Gould's address upon the Operative Treatment of Varicose Veins published in THE LANCET of April 8th. It is with great satisfaction that I note that he relates two clinical examples—apparently his whole experience—of the treatment of thrombosed varix by excision, a method which I have practised and taught for some years, my first operation for the excision of a large recent thrombus having been performed in 1885. I have now had experience of more than 60 cases of the kind (four of which are in progress at the present time), and in all of them the advantages of the treatment have been demonstrated in a remarkable way. In my hospital work the removal of these thrombosed veins has become practically a routine proceeding. The reasons which led me to adopt this radical method I have sufficiently indicated in an address on Varix published in THE LANCET as recently as Oct. 15th, 1898, and subsequently issued by Messrs. Longmans and Co. It is unnecessary, therefore, to trespass upon your space further in order to repeat them here. I am, Sirs, yours faithfully,

Chesterfield-street, Mayfair, W. WILLIAM H. BENNETT.

"CERTAIN ORGANISMS ISOLATED FROM CANCER AND THEIR PATHOGENIC EFFECTS UPON ANIMALS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 8th Mr. H. G. Plimmer says that my letter on the above subject[1] may give rise to a few misapprehensions. He states that he and others have "*regarded* as parasites standing in causal relationship to the disease certain cell-inclusions which could be found in cancer." He deduces the following from his observations and experiments: "That by the use of appropriate means these intracellular bodies can be isolated and cultivated outside the body," and "that these cultures when introduced into certain animals can cause death with the production of tumours, so far with one exception of endothelial origin, and that pure cultures can be made from these growths which, when inoculated into suitable animals, will produce similar tumours."[2] Mr. Plimmer will not allow me to say that he claims to have "obtained pure cultures of parasites standing in causal relationship to cancer" or to suggest that he "believes that the organisms are capable of inducing cancer." I regret that I have misrepresented him in the slightest degree. Nevertheless, I am pleased that I have elicited these corrections. I may now take it as not proved that Mr. Plimmer has "obtained pure cultures of parasites standing in causal relationship to cancer." He distinctly states that he does not know whether the organisms are capable of producing cancer. But Mr. Plimmer still maintains that it is "logically deducible" from the experiments which he has described that he has achieved "the experimental production of malignant tumours in animals by an organism isolated from a malignant tumour in man."

You kindly allowed me to state my opinion that "the evidence brought forward in THE LANCET forms no logical basis for" this conclusion. Until Mr. Plimmer directed my attention to the fact I had not observed that there is a difficulty between him and myself about the meaning of words. I used the words "malignant tumour" as I believe they are ordinarily understood and I thought that Mr. Plimmer used them in the same sense. It seems, however, that Mr. Plimmer and I attach different meanings to these words. The original meaning of the word "tumour" is a swelling; but many swellings such as tuberculous nodules and, in fact, all swellings caused by parasites are not now generally spoken of as tumours. The term "tumour" is reserved for fatty, cartilaginous, and other new growths amongst which malignant neoplasms, carcinomata and sarcomata are usually included. Mr. Plimmer may possibly consider that I beg the question in thus classing carcinomata and sarcomata with fatty and cartilaginous growths, but I think that these growths (carcinomata and sarcomata) may fairly be considered non-parasitic, if only on account of ancient usage, until it is proved that they are caused by parasites.

On the other hand, Mr. Plimmer thinks that "new formations, occurring as swellings or lumps in places where there should be none and visible withal to the naked eye, may fairly be" called tumours. This would include granulation tissue, gouty concretions, gummata, carbuncles, &c. Moreover, he says that the organisms he has isolated from cancer have produced "multiple tumours in various parts and the death of the animal" and he thinks "that the term 'malignant tumour' is an accurate one for this set of conditions." There is here a latitude of definition which I have never contemplated in connexion with the words "malignant" and "tumour." "Tumour" at once assumes something very near, if not quite, its original meaning of a swelling, and "malignant" may be applied to every swelling which is caused by parasitic organisms and which proves fatal.

It seems to me quite impossible to discuss this question further unless Mr. Plimmer defines more exactly the meaning he attaches to the words "tumour," "malignant tumour," and "new formation." To prove that the organisms he has isolated cause a malignant tumour it is necessary to know what constitutes a malignant tumour and to show that the tumour produced may be so described. I should expect that an organism isolated from a cancer would produce a

[1] THE LANCET, April 1st, 1899.
[2] THE LANCET, March 25th, 1899, p. 827.

cancer if the organism were the cause of the tumour. But Mr. Plimmer has isolated from a cancer an organism which has produced swellings which Mr. Plimmer describes as "malignant tumours" and he says that these tumours are "certainly not carcinomatous." This suggests that there may be one cause for carcinomatous malignant tumours and that the same cause may produce malignant tumours which are not carcinomatous. It may be so; but it seems to me that Mr. Plimmer has definitely assumed a conclusion which if proved would be of the greatest scientific importance and in support of which he has produced no satisfactory evidence in THE LANCET.

I pointed out in my letter in THE LANCET of April 1st that "it is important to know whether the culture used in each case was made from a body which had died from disease or from a freshly removed tumour, but this information is wanting." Mr. Plimmer's reply is: "With regard to the fourth paragraph in Mr. Malcolm's letter the culture used was, as stated in the third section of my paper, isolated from the case there mentioned."

In experiment No. 9 the culture used was "made from the abdominal glands of No. 8." I wanted to know whether in any of the other cases the culture isolated from the cancer mentioned by Mr. Plimmer had been cultivated in the body of an animal that died and had been obtained again as a pure culture from that body before being used for these experiments. Mr. Plimmer leaves this indefinite still and I think it is an important point.

I am, Sirs, yours faithfully,

Portman-street, W., April 11th, 1899. JOHN D. MALCOLM.

INDURATIVE MEDIASTINO-PERICARDITIS.

To the Editors of THE LANCET.

SIRS,—I have been interested in Dr. Whipham's communication on "Chronic Mediastinitis (Indurative Mediastino-Pericarditis)" which appeared in THE LANCET of April 1st and 8th.

The very careful clinical and pathological accounts which the author of the communication gives are an example of what is required in considering a comparatively rare disease like the one in question. Four years ago, when I collected all the cases of indurative mediastino-pericarditis which I could find, I was much struck by the incompleteness of the records, and I notice that Dr. Whipham repeatedly refers with regret to the fact that the details of the cases in various particulars are incomplete. I fully recognise that that was so, and hope that in future Dr. Whipham's example will be followed, and that the cases of the disease in question, which is a most interesting one, will be more fully recorded. Although full clinical and pathological records are often very tedious reading, it is only by the publication of such that anyone who attempts to elucidate a comparatively rare disease by an analysis of the cases can obtain the facts necessary for his purpose.

The diagnosis of indurative mediastino-pericarditis is, as Dr. Whipham says towards the end of his communication, a matter of considerable difficulty. I was very amused to read that a case was under so able a writer as Dr. Taylor for a considerable period and that cirrhosis of the liver at one time was thought to be the explanation of the symptoms and physical signs, and that in one of Dr. Whipham's own cases a consultation of the physicians at St. George's Hospital took place without any definite diagnosis being made. I can also make a similar confession. For the last 18 years there is no disease which I have been more interested in and more constantly on the look-out for than indurative mediastino-pericarditis. Under such circumstances one is apt to diagnose the disease one is interested in probably more frequently than one ought to do and to see its signs where they do not exist, but I well remember one case which during the patient's life I always regarded as a simple case of chronic bronchitis and dilated heart but which to my surprise at the post-mortem examination turned out to be a typical specimen of indurative mediastino-pericarditis.

The disease undoubtedly is difficult to diagnose, but the difficulties are by no means insuperable in the majority of cases and a careful consideration of its most essential features will as a rule save a physician from error. There is one sign of indurative mediastino-pericarditis which I miss from Dr. Whipham's communication—i.e., inspiratory swelling of the veins of the neck which although not a constant sign of indurative mediastino-pericarditis is, I believe, when present of great significance. I am inclined to think, however, that it is more frequently absent than present in the disease in question and it is to be remembered that it has been recorded (Petrina) in a case of mediastinal tumour. When, however, it is present and especially when we also have a pulsus paradoxus it is not too much to say that indurative mediastino-pericarditis is the most probable disease present. I am, Sirs, yours faithfully,

Mosley-street, Manchester. THOMAS HARRIS.

"LOCK HOSPITALS AND LOCK WARDS."

To the Editors of THE LANCET.

SIRS,—Referring to your annotation in THE LANCET of April 8th allow me to point out that the Liverpool Lock Hospital which has been closed comprised in reality the lock wards of the Royal Infirmary though in a separate building and in an adjacent street. It is too true that the very name of "lock" hospital acts to a certain extent as a deterrent, but if that which we call "a rose by any other name would smell as sweet" I fear that what we know to be a lock hospital would under any other name be equally ostracised and equally unfortunate. The Liverpool Lock Hospital, received patients not only from Liverpool and its neighbourhood, but from very distant places, it and the Manchester Lock Hospital being the only two of the kind in the whole north and centre of England. It is a significant fact that in three London hospitals the lock wards have been absolutely closed as such, in three others the beds have been reduced, whilst five more have never had any lock wards. Unless the attention of the British nation can be roused to the necessity of supporting these hospitals and wards we shall before long be without either lock hospitals or lock wards. I am, Sirs, yours faithfully,

Liverpool, April 11th, 1899. FRED. W. LOWNDES.

DEATHS UNDER NITROUS OXIDE.

To the Editors of THE LANCET.

SIRS,—The case reported by Dr. Howard H. C. Dent in THE LANCET of April 8th is of considerable interest and importance, and as it appears to me to very forcibly illustrate certain points which I have for many years endeavoured to emphasise I hope you will kindly allow me to make a few remarks upon it. The interpretation which I would offer of the symptoms so clearly described by Dr. Dent is somewhat different from that which he advances. In order to make myself perfectly clear it is necessary to first draw attention to one of the most important points—perhaps the most important—in the administration of anæsthetics. With all anæsthetics, but more particularly with nitrous oxide when administered free from oxygen, mechanically obstructed breathing, dependent upon the direct or indirect action of the anæsthetic itself, is very liable to arise. I have elsewhere entered at length into the numerous causes which may come into play in the production of this particular form of respiratory embarrassment and I need not refer to them here. Some degree of obstructed breathing is usually produced whenever pure nitrous oxide is administered in the customary manner to healthy persons. As a general rule, however, no harm results because the removal of the anæsthetic allows air to enter the lungs and the asphyxial phenomena rapidly vanish. But in subjects whose air-passages are already narrowed by any pre-existing conditions respiration becomes much more quickly obstructed than is usually the case, and should the patient's general state be unsatisfactory circulation will not of course hold out against the respiratory arrest as long as under other circumstances.

When nitrous oxide is administered free from oxygen three definite asphyxial phenomena arise towards the end of the administration; these are obstructive stertor, convulsive muscular movement, and cyanosis. I have quite recently shown that all of these incidental factors may be made to come and go during any given administration of nitrous oxide and oxygen by diminishing or increasing the percentage of oxygen. The three phenomena are, in fact, anoxæmic in nature and are not essential to the anæsthesia of nitrous oxide. The stertor of ordinary nitrous oxide anæsthesia is the audible expression of obstructed breathing and the latter does not as a rule occur without the former. It may, however, happen that the obstruction comes about noiselessly and, as in the case under consideration,

respiratory movements may continue for a while, even though the air-way be quite occluded. The obstructed breathing produced by pure nitrous oxide appears to have as its immediate cause spasm of muscles capable of closing the superior opening of the larynx. The spasmodic action of these muscles takes place in conjunction with the contraction of other muscles throughout the body. If the hand be placed over the larynx of a person deeply under the influence of pure nitrous oxide the whole organ will usually be found to be spasmodically raised as in the first half of the act of deglutition, and when it is thus drawn up so that its superior aperture becomes closed by the epiglottis and base of the tongue respiration ceases. It would be premature to attempt to specify the muscles which contribute to the occlusion of the larynx. The point which I would emphasise is that arrested breathing under nitrous oxide is almost invariably obstructive and is rarely, if ever, dependent upon respiratory paralysis.

It will, I think, be clear from the above considerations that although nitrous oxide is the safest general anæsthetic known there are certain cases in which it is distinctly dangerous. Some years ago a well-known writer on the subject of anæsthesia read an exhaustive paper on the physiological action of this gas and, in his zealous advocacy of its safety and universal applicability, went so far as to deny that it was an asphyxiant. Now, teaching of this kind can only have effects such as we find in Dr. Dent's case, and the sooner its fallacies are recognised the better will it be for all concerned. I do not for one moment deny that in the hands of those who have had special experience pure nitrous oxide is a safe anæsthetic, even though its administration be pushed to the point of arrested breathing. But like other drugs it is not suitable in all types of subjects. To state that the pure gas is not an asphyxiant is, I venture to think, a most misleading doctrine. Fortunately our present knowledge enables us to disprove this assertion, but it will, I fear, be some time before the truth becomes universally accepted.

It is a matter for congratulation that at the present time we have reliable means at our disposal for obtaining nitrous oxide anæsthesia free from unnecessary asphyxia. This can be accomplished by administering the gas with proper percentages of oxygen. By this system the one disadvantage of nitrous oxide is eliminated and we have at our command an anæsthesia so safe that it is difficult to conceive any fatality arising during its maintenance.

I am, Sirs, yours faithfully,

FREDERIC HEWITT.

Queen Anne-street, Cavendish-square, W., April 11th, 1899.

WHERE SHALL WE BUILD OUR NATIONAL SANATORIA FOR CONSUMPTIVES?

To the Editors of THE LANCET.

SIRS,—The interest in the open-air treatment of phthisis which has been stimulated by the propaganda of the Association for the Prevention of Consumption and Other Forms of Tuberculosis and the proposals to establish sanatoria in this country have already had one useful result in drawing attention to the possibility of successfully treating this disease in such a climate as that of the British Isles. The conviction is gradually gaining ground that the fresh-air treatment may be successfully carried out without sending the patient out of England. This is important, for the majority of phthisical patients are unable to afford the expense or to stand the fatigue of visiting foreign health resorts. The influence of climate in the causation of phthisis, once considered paramount, is now given a secondary place; and though our variable climate is still considered by many as an obstacle to successful treatment we may sanguinely expect within a very few years to find this idea less prominent. True, our climate is not the most suitable that is to be found, but "'twill serve." Hitherto the treatment of phthisis at home has been considered so nearly hopeless by the public, if not by the medical profession, that systematic attempts at cure have never reached the completeness obtaining in many foreign sanatoria. That success is possible without leaving our own shores is known to most of those who have much experience in the treatment of phthisical cases, but as a rule we have advised our patients to change their locality with the changes of season and in this country of many climates—or as has been said of climatic "samples"—to chase the sunshine from place to place. The proposal to erect sanatoria must, however, direct our attention to the selection of such parts of the country as will be most suitable for all-round residence—districts where phthisical subjects may be able to live in the open air all the year round with the maximum of sunshine and the minimum of rain. All cases are not alike in their climatic requirements, and just as some are benefited by the warmth of Egypt and others by the bracing cold of the Engadine altitudes, so will different localities in this country have their several claims to selection as sites for sanatoria. But whether we seek for comparative warmth or for bracing uplands, dryness of soil and air with a maximum of sunshine throughout the year must be considered as essential.

Before any large sanatoria such as are proposed in the scheme of the Association for the Prevention of Consumption can be commenced full information as to the climatic advantages of many localities will have to be collected, and I wish to draw attention to a district which has lately attracted my notice from the marked benefit received by a phthisical patient who recently spent some time there. Several well-known health resorts are situated along the southern shore of the Bristol Channel and the climate of that district seems to be peculiarly equable and dry. Portishead shares the advantage of the rest of this district and has in addition characters peculiar to itself. Half an hour by train from Bristol it is easy of access. Rising above the village is a hill some 400 feet high dotted over with residences. The northern slope faces the Channel with the Welsh hills behind Newport in the distance; the southern slope looks across the valley to hills beyond. Towards the east the view extends to the Clifton downs, whilst westwards the Channel leaves free passage for the soft west breeze which is the prevailing wind. Sheltered thus by neighbouring hills from north and east, standing high above the water, and being favoured by an exceedingly clear atmosphere and small rainfall, the hills of Portishead are protected from cold winds and receive an amount of clear sunshine throughout the year which is exceptional. The tide of the Bristol Channel here rises and falls about 37 feet, and perhaps the air currents produced by this large diurnal alteration in the water level may account for the absence of fogs. The Welsh hills seem to attract the clouds and to draw them away from the south side of the Channel. Hill and dale, woods and lanes with fern-grown banks, tempt one to wander in the open air, whilst the sunshine and warm breeze allow of this out-door life without risk. Such is the account given me by residents and visitors and a short visit left me with the impression that they were not exaggerating. The drainage and water-supply are excellent. With these advantages it is not surprising to find statistical evidence that the place is healthy. An average death-rate of 12·35 per 1000 from all causes for the last six years shows a death-rate from phthisis of 1·48 and a zymotic rate of 0·99 per 1000 and a very low rate from pulmonary diseases such as pneumonia, pleurisy, and bronchitis. The fact that many tender and subtropical plants will stand the winter without protection speaks favourably for the temperature. There may be several places with climatic advantages equal to those of Portishead, but there must be few which would be more suitable for a prolonged residence for phthisical subjects seeking health.

I am, Sirs, yours faithfully,

J. EDWARD SQUIRE, M.D. Lond.,

Physician to the North London Consumption Hospital, &c.

April 8th, 1899.

PREVENTION OF ZYMOTIC DISEASES.

To the Editors of THE LANCET.

SIRS,—I should like to bring before the medical profession the subject of the prevention of zymotic diseases with a view of making our first line of defence in these diseases much stronger than at present, seeing that the serious consequences which they produce are apt to last for life. I do not consider that we take sufficient precautions to ward off these affections early enough. I have been much struck in treating these diseases with the immediate and marvellous curative results which follow chlorine gargles in scarlet fever and glycerine and carbolic acid gargles in other zymotic diseases. From the moment they are commenced, while all the "ports" are kept open, the disease is arrested in its progress. Now, knowing all this, are we simply to go on for ever allowing these diseases to develop? I would say, Certainly not. We ought to advance and keep ourselves constantly protected

against the invasion of the bacteria which cause them. These bacteria attack first our throats and then spread to neighbouring mucous membranes, setting up first irritation, then inflammation and ulceration, followed by poisonous absorption, with all the well-known clinical symptoms. Therefore I would advise all parents, guardians, and especially masters and mistresses of scholastic boarding houses, to see that the young people attending school have their throats thoroughly and regularly gargled or sprayed with an antiseptic morning and evening, so that if they did come in contact with infection this timely care would keep them free from danger. I have no hesitation in saying that if these directions were faithfully carried out they would go a long way to simply and effectually prevent these diseases. The trouble of doing all this would be amply rewarded by relief from great anxiety, not to speak of the great waste of time and money lost while the rising generation were being educated.

I am, Sirs, yours faithfully,

Cheltenham. J. WILSON, M.D. Edin.

THE INFLUENCE OF CLIMATE IN THE TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—Although Davos has probably had more phthisical patients in it than any other health resort in the world during the last 25 years, yet the scientific literature dealing with the medical aspects of the "cure" there and the statistics there are very limited. Herr Hofrath Dr. Turban's book "Beiträge zur Kenntnis der Lungentuberkulose," which has just appeared, gives some very important facts. It enables Davos to take its place in the comparative statistics which are of such great service in determining the respective merits of rival resorts and methods.

In England it is being asserted again and again that climate has nothing or very little to do with the cure and patients are told that they can be cured just as well in England as in the high Alps. The new evidence is very much against this pleasant idea. Dr. Turban shows that during seven years 66·1 per cent. of all the patients treated in the sanatorium over which he presides were absolutely or relatively cured—i.e., were discharged in a normal state of health, and that from one to seven years after their discharge 48 per cent. still retained this state of health. Of patients in the third stage with extensive and serious disease of the lungs 17·4 per cent. were permanently cured, while of those in the first stage with only slight tuberculosis in one lung 97·5 per cent., or almost all, were permanently cured. At Falkenstein, the best known of the German lowland sanatoria, we find the number of absolute and relative cures given as 24·2 per cent., or (according to Meissen's statistics) the permanent cures were only 22 per cent.—i.e., less than half the number obtained at Davos.

That these results are obtained not only in closed sanatoria at Davos is shown by the statistics of Dr. Lucius Spengler for the years 1887–90, when 41·8 per cent. of the patients treated by him were absolutely and relatively cured—i.e., nearly twice as many as at Falkenstein. Those of us who have personally experienced the curative effect of the Davos climate are glad to see its great value thus scientifically demonstrated.

I am, Sirs, yours faithfully,

EDWARD H. DOUTY, M.A., M.D. Cantab.

Davos Platz, April 7th, 1899.

"DIFFICULTIES UNDER THE NEW VACCINATION ACT."

To the Editors of THE LANCET.

SIRS,—I do not wish to appear to "fight shy" of this correspondence and with your kind permission I will reply to "P. P.'s" letter in THE LANCET of March 25th although Mr. Blaker's letter of the same date anticipates my answer concisely and well. I am using Messrs. Burroughs and Wellcome's visiting list which I believe has been brought to its present stage of usefulness by the proprietors obtaining hints from many members of the profession. Why should a column for vaccination cases be placed amongst the obstetric engagements if my opinion is incorrect? Surely, it could have been entered in the ordinary part of the book. There is a vast deal of difference between calling on a patient whom you have heard is *enceinte* to offer your services and suggesting the advisability of having a child vaccinated whose mother you have attended when it was born, which attendance (generally speaking) makes you the medical attendant of the child.

If "P. P." noticed that an infant whom he had lately brought into the world was suffering from one of the following conditions—viz., hernia, a rapidly growing nævus in the neighbourhood of the eye, glioma of the retina, &c., or that ophthalmia neonatorum came on severely after a few days—I suppose it would be very unprofessional for him to warn the mother and to suggest treatment in any way, as it would be for him to try to save his little patient against an attack of small-pox. I have had people complain to me ere now bitterly of the professional etiquette they have been subject to and I think that they have had just cause if they have encountered a similar practitioner to what "P. P.," perhaps unworthily, makes himself out to be. True medical etiquette should not be only a boon to the practitioner but an equal one to the patient. But whether I am right or wrong in my views there is no getting over the fact that the parent and practitioner between them after having large opportunities must ignore the law before any public vaccinator will bother them and therefore they are primarily at fault and it is a noble way to get out of the difficulty by blaming the public vaccinator.

I am, Sirs, yours faithfully,

March 28th, 1899. FAIRPLAY.

AN IMPORTANT POINT UNDER THE INFECTIOUS DISEASES (NOTIFICATION) ACT.

To the Editors of THE LANCET.

SIRS,—I shall esteem it a great favour if you will advise me how to proceed in the following case. I rendered my account to our urban council for the notification of infectious diseases cases which I had reported during the year 1898 and got a reply from their clerk informing me that he had been instructed by the council to deduct from my account all the cases which I had reported during the first six months, as the council cannot pay debts which have been contracted more than six months before the making of the last general district rate—viz., on Oct. 28th last—and enclosing a cheque for the remainder of my account. Can I lawfully claim or demand payment for the first six months, or can I lawfully refuse to report further cases until my account is paid in full?

I am, Sirs, yours faithfully,

April 12th, 1899. M.B., C.M.

*** The case submitted to us is by no means free from difficulty. Under the Public Authorities Protection Act, 1893, it is provided by Section 1 (*a*) as follows:—"The action, prosecution or proceeding shall not lie or be instituted unless it is commenced within six months next after the act, neglect, or default complained of ....." and it is probably on this that the urban district council refuse to pay fees for notifications sent in on or before the termination of October, 1898. But it might be argued that since the notifications were sent in to the medical officer of health and not to the urban district council, the debt on the part of the council did not arise when the notification forms were sent in, but only when a summary of the amount due for them was transmitted to the clerk to the urban council, and that as six months have not elapsed since the debt became due it is still open to the medical practitioner to proceed for payment of the debt due to him. Action on these lines should, however, be based on legal advice. On the other hand, the urban council might be urged not to stand upon the strict letter of the law as interpreted to them by their legal adviser on the ground that if they paid a claim which was so obviously just, and if by chance it were surcharged by the auditor, the surcharge would certainly be remitted by the Local Government Board. Payment might perhaps be accepted on condition that the amount would be refunded if such surcharge were not remitted.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Commission.—The Progress of the Epidemic.

THE Plague Commission continued its sittings in Bombay on March 20th. Several of the former witnesses were re-examined. Major Reade submitted a supplementary statement referring to the number of cases and deaths which have occurred lately in Poona. He thought that rat infection had not played a large part in the outbreak at Poona. He thought that the influence of rat infection had been exaggerated.

Lieutenant-Colonel Lawrie, I.M.S., Plague Commissioner of Hyderabad, said that effective steps were taken for the detention of suspicious persons coming from infected districts on the railway and that the roads between Hyderabad and the infected districts were patrolled by medical search parties and that they failed to discover plague in any of the villages.

Major Bannerman, Deputy Sanitary Commissioner, Madras, submitted a report on the inoculation of the 26th Regiment of Madras Infantry and said that one could not help being convinced that but for the almost complete inoculation and re-inoculation of the regiment a second epidemic as severe as the first would have occurred.

Dr. Galliotti gave supplementary evidence. He had, however, no further information regarding experiments with Lustig's serum. The results were not very satisfactory. He thought that the injection of serum seemed to improve the condition of the patients. He admitted that all moribund cases and all cases thought likely to die were excluded from the serum treatment. Cases also which were thought to be of the pneumonic type were also excluded.

Mr. C. C. James, drainage engineer to the Bombay municipality and member of the late Plague Committee, produced charts showing the progress of the plague in Bombay city. He said that as regards the mortality no definite connexion was evident with the prevailing temperature, humidity of atmosphere, or wind. He said that he thought it could not be doubted that the measures which have been adopted in Bombay had had the effect of diminishing the extent of the pest. He gave detailed figures showing the excess mortality from all causes since the plague appeared and said that from the chart he exhibited the first epidemic was probably the worst one.

Plague is still raging with unabated virulence in Bombay city. The total number of deaths for the past week from all causes is recorded at 2408. The deaths from plague alone are probably about 250 a day, although only 1126 are officially recorded for plague during the past week. The population of Bombay is a very fluctuating one. During the first epidemic very large numbers left the city at the height of the panic. Since then the population has apparently kept more stationary, although the influx during the past cold season must have been considerable. Estimates of the population must be wholly guess-work and delusive for purposes of satisfactory comparison. The census figures of 1891 are the only ones reliable. Some of the witnesses before the Commission have expressed opinions based on this fluctuating population which must therefore be accepted with great caution.

In Calcutta plague administration appears to be in a very unsettled state. The outbreak is slowly developing, but little or nothing is being done to stop its progress. The powers possessed by the Executive are so feeble and fear of the native is so great that anything like plague sanitary administration is impossible. It is rumoured that the Secretary of State has conveyed a strong recommendation to the Viceroy to enforce segregation and inspection in Calcutta, and that the Viceroy is in favour of the measure, but that the Lieutenant-Governor of Bengal is strongly opposed to the idea. It is perfectly obvious that unless the powers of the Epidemic Diseases Act be acquired and exercised the hands of the Executive are paralysed. If dirt and filth and offensive exhalations favour the spread of plague then Calcutta ought to suffer as severely as any place in India.

So far, however, its ravages have been slight. Inoculation is practically untried in Calcutta and the people will not hear of it. There is at present neither fear of the plague nor of the plague regulations. It is thought that any active measures would lead to disturbances, or at any rate that a panic amongst the people would ensue, the city become depopulated and trade and business be brought to a standstill. It is a somewhat healthy sign to hear complaints from the natives that nothing is being done.

March 23rd.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Queen's Hospital.

THE annual meeting of the governors of this institution was held on March 22nd under the presidency of the Lord Mayor (Alderman Beale). The report showed that the number of out-patients had decreased. The registration fee of 1*s.* for each patient should have produced from 28,559 patients some £1428, but in many cases it had been remitted so that the total amount was £916. The financial statement showed that £827 had been expended in excess of the income. The extraordinary expenditure accounted for £658, but the extra and occasional sources of income had been substantial this year. The great feature of the year was the installation of the electric light. The nurses' home would be enlarged when sufficient means were obtained; this was a somewhat pressing necessity since it was desirable that the nurses when off duty should not be in the main building. It was stated that the sum required for ordinary income was £10,000 a year. The usual votes of thanks were passed.

The Ear and Throat Hospital.

The fifty-fourth annual meeting of the supporters of this hospital was held on March 16th. The report stated that the number of new out-patients for the year was 3480, an increase of 140, the total number being 6368. 647 patients were treated, as against 538 in 1897. 111 applicants for treatment were rejected as having been found able to pay for medical advice, an important element in the management and supervision. Financially there was a deficiency of £324 on the year's working and an appeal was earnestly made for increased subscriptions from the outlying districts from which many of the patients came.

Birmingham Medical Institute.

The annual meeting was held on March 23rd. The report stated that the exercise of rigid economy during the year had prevented the ordinary expenditure from exceeding the ordinary income and owing to the receipt of a considerable sum in donations the revenue account showed an excess of income over expenditure of £59 17*s.* 3*d.* which had gone to diminish the debt at the bank. Experience had shown that the operation of the by-law adopting life-compounding subscriptions had been prejudicial to the financial interests of the institute and the committee unanimously proposed its repeal. The library comprised 12,557 volumes, of which 293 had been added during the year. The advantages of the institute and the necessity for a larger number of members should become more widely known. The support of the profession is very inadequately represented by the present number of members.

A University for Birmingham.

A communication has been received by Mr. Chamberlain to the effect that a gentleman who wishes to remain anonymous and who is not connected with Birmingham proposes to testify his interest in the scheme for the formation of a university by giving a sum of £25,000 to the fund on condition that £225,000 are previously subscribed. £135,000 have been already promised so that this entails the formidable task of raising £90,000, and to satisfy the conditions this must be done within twelve months. An additional appeal has therefore been made with the earnest expectation of success. The donations may be spread over five years. It is evident from the subscription lists that a large mass of people in and around the city have not yet responded to the applications made and also so far have failed to appreciate the many advantages offered by the formation of the new university. That many generous people exist in the midst of this large population has already been shown and their example should act as a stimulus to others to send in their contributions.

April 11th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Medical Faculty of University College, Liverpool, and the Lying-in Hospital: Clinical Midwifery.

AN obstetric assistant has been recently appointed by the medical faculty of University College to supervise the attendance of students upon the practice of midwifery. The appointment has been made with the approval of the committee of the Lying-in Hospital and there is every reason to believe that the assistance and the instruction supplied to students by this means will result in much practical benefit. Dr. Willett who has been elected to the post was a distinguished student at University College, Liverpool. He has already filled the offices of house surgeon and house physician at the Liverpool Royal Infirmary. Every opportunity will now be afforded to Liverpool medical students to obtain a practical knowledge of obstetrics, as the committee of the Lying-in Hospital have thrown open both their in-door and out-door departments for clinical instruction. There is an annual average of over 2000 cases treated in the hospital and in the eight districts; the latter have been recently rearranged to include Greater Liverpool. In each district an obstetric nurse resides in a "district home" which is provided with the telephone. A district nurse who is a trained midwife is not allowed to take private practice, as she is adequately remunerated for her services. Patients attended by students have the benefit of a nurse's services, and for the very poor gifts of clothing and food are provided by the committee of the Ladies' Charity. The honorary medical staff of the Lying-in Hospital and the district medical officers have cordially coöperated with and guided the committee of the hospital and the medical faculty of University College to the completion of the satisfactory arrangements now made for the practical training of students of midwifery in Liverpool. In accordance with the agreement between the committee of the hospital and the medical faculty of University College the professor of midwifery has become *ex-officio* an active member of the honorary staff of the hospital, controlling two beds and occupying a seat on the medical board of the charity. The medical faculty have closed their own separate out-door maternity charity, which is no longer required as such, and have converted Brownlow House into the official residence of the obstetric assistant, with whom students are recommended to reside during their term of attendance on clinical obstetrics. The Lying-in Hospital and Brownlow House are situated in very close proximity to University College and are connected by telephone. In Liverpool there is now only one maternity charity (excluding the Poor-law) and with it University College is intimately associated. The yearly nomination by the medical faculty of a gentleman to fill the post of obstetric assistant has added another to the many clinical prizes open to former students of the college. During the current year an increase in the work of the maternity charity has been recorded. It is generally acknowledged that the recent changes in the administration have increased lay and professional confidence in the management of the Lying-in Hospital. Mention has been made of the large mortality among the in-patients at the hospital during 1898 which amounted to nine deaths. In six of the fatal cases death was due to general disease entirely unconnected with obstetrics: two patients died from chronic renal disease, one from post-diphtheritic nephritis, one from leucocythæmia, one from basilar thrombosis, and one from cancer of the rectum. The remaining three cases were sent in from the districts in a very serious condition.

The Eye and Ear Infirmary: Extension of the Term of Office of Honorary Surgeons.

By a recent resolution of the committee of the Eye and Ear Infirmary the term of office of the honorary surgeons has been extended to 60 years of age. The regulation hitherto in force only permitted an honorary surgeon to remain in office for a period of 20 years. This alteration of law places the Eye and Ear Infirmary in line with the principal Liverpool hospitals in the matter of age limit. In proposing the change the position of the two assistant surgeons has not been overlooked. In future an assistant surgeon shall be entitled to six beds and to the rank of surgeon after seven years' service. The senior assistant surgeon having fulfilled the conditions forthwith attains to the rank of surgeon and in less than two years the junior assistant surgeon will also attain to the same privileges. The extension of the term now granted to the honorary surgeons was advocated in THE LANCET of Feb. 27th, 1897, and it is needless to say that the action of the committee in the matter has met with the emphatic approval of the profession in Liverpool.

The Sanatorium of the Liverpool Consumption Hospital.

Acting upon the advice of Sir William Broadbent and the late Sir Douglas Galton the committee of the Hospital for Consumption have decided to build the new sanatorium for phthisical patients (the annexe to the hospital) at Delamere Forest. It was the original intention of the committee to build at West Kirby, but the limited quantity of land at West Kirby and its environment were found to be unsuitable and the project could not be carried out under the most favourable circumstances. The proposition to build the sanatorium at Delamere Forest has not been acquiesced in by some members of the committee who have consequently resigned.

April 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Proposed Zoological Gardens for Edinburgh.

ON April 7th an adjourned public meeting was held in Edinburgh to receive the report of the committee appointed to examine sites for the proposed zoological gardens for Edinburgh. Professor Cossar Ewart occupied the chair. The report dealt with a number of possible sites, among them being Redbraes Nurseries, ground at the Dean, ground at Warriston, ground at Bellevue, Hawkhill Recreation Grounds, ground of Restalrig House, ground at Joppa, ground on Comiston Estate, and ground on Barnton Estate. The committee were not entirely satisfied with any of these pieces of ground. The three most important points to be attended to were proximity to the population, an attractive situation, and a reasonable price. Some members of the committee considered the ground at Barnton the most desirable, but it had the disadvantage of being three miles from the city. Others of the committee thought that the most feasible of all the sites was a portion of the Arboretum. The Chairman, in remarking on the report, said that there was an increasingly strong feeling in Edinburgh in favour of the establishment of a zoological garden. In selecting a site it was necessary to consider first the health of the animals, and secondly the convenience of the public as regards distance from the city. There were many reasons why such a garden should be established in Edinburgh. He himself had recently been immensely impressed with the necessity of having something of the kind within reach of the students of the university which they would be able to use in the same way as they used the Botanical Gardens. Various speakers followed, one of whom mentioned that the list of animals which had been drawn up represented a cost of about £6700. The speaker thought the whole scheme would not cost over £20,000. In conclusion, a motion was carried that the committee should approach the Government through the municipality with a view to ascertaining whether a piece of ground could be obtained within the Arboretum for the proposed zoological gardens.

Conference on the Prevention of Communicable Diseases.

A meeting was held in the Edinburgh Council Chamber on April 10th between representatives of the Royal College of Physicians of Edinburgh and a sub-committee of the Public Health Committee of Edinburgh Town Council to consider a letter from the Royal College of Physicians regarding the reporting on morbid products from patients suffering from communicable disease and on materials such as milk and water suspected to be carriers of disease germs. The Royal College of Physicians pointed out that a large amount of work of this kind had been done gratuitously in its laboratory for many years. They recognised the necessity of continuing this work and wished to ascertain whether the town council would unite with them in meeting the expense incurred in it. After some discussion the matter was left to the consideration of the Public Health Committee.

University of Aberdeen.

The chair of Natural History vacant by the death of Professor Nicholson has been filled by the appointment of

Mr. J. Arthur Thomson, M.A., F.R.S.E., extra-mural lecturer on zoology, Edinburgh. The most remarkable feature at the graduation ceremony on April 7th was the large number of graduates in Arts. The degree of M.D. was conferred in five cases; M.B., C.M. (old regulations) in eight cases; and M.B., Ch.B. (new regulations) in 20 cases, while three others gained the diploma in public health. The usual reception was held in the Mitchell Hall in the evening.

Aberdeen Ophthalmic Institution.

At this institution, which is under the charge of Dr. Galloway as honorary surgeon, there were last year 3127 out-patients, the total attendances being 9117. The number of in-patients was 75 and at the close of the financial year there was a balance in hand of £196 8s. 6½d.

April 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

AN important letter recently appeared in the columns of the *Irish Times* from the pen of Dr. Charles Moore in which he referred to the prevalence of tuberculosis and enteric fever in Dublin and to the neglect on the part of the corporation to adopt even simple measures for the safety of the citizens. It appears that the Royal Commission held in Dublin in 1879 reported that slaughter-houses, cowsheds, and dairies—some of them without adequate appliances for drainage, cleanliness, or ventilation—were then to be found in unsuitable situations within the municipal area and recommended strongly that they should be closed. It is now 20 years since the Commissioners' report was issued, yet there still exist in the city over 60 slaughter-houses, while there is no authorised inspection of the animals slaughtered, of men, and the cows which supply milk to the citizens. The Registrar-General for Ireland called attention some years ago to the fact among many others that in Berlin during the year 1892–93 of 142,874 oxen and cows slaughtered no less than 21,603 gave evidence of tuberculosis. THE LANCET and the *Times* have insisted upon the importance of this matter in England. The *Times* in a leading article on the Congress of Hygiene pointed out some months ago that on the Continent all private slaughtering of animals is forbidden. Professor Mc Weeney who is recognised in Ireland as a reliable authority on the subject has stated that tuberculosis in cattle is not quite so common in Ireland as in other countries, probably on account of the fact that Irish cows spend most of their life in the fields and are not stall-fed. The open-air treatment has thus apparently proved an effective prophylactic in the bovine as in the human race. The matter is, however, very important on account of the wide prevalence of tuberculous disease among the people of this country, and although Mr. Field, the Member of Parliament for the St. Patrick's division of Dublin and a much respected member of the victualling trade, has been recently reported to have stated that he saw no reason why a butcher should not be permitted to carry on his own business in his own establishment the argument of Dr. Moore is irresistibly in favour of his plea that all the private slaughtering-houses in Dublin should be closed and that a large public abattoir should be constructed in the neighbourhood of the North Wall, a situation which for many reasons would be convenient and suitable.

The National Hospital for Consumption in Ireland.

The ball in aid of this charity at which their Excellencies the Lord-Lieutenant and the Countess Cadogan have signified their intention to be present and which was fixed for April 18th has been postponed.

Health of Belfast.

At the usual monthly meeting of the Belfast Corporation on April 5th the chairman of the Public Health Committee (Alderman Graham, M.D. R.U.I.) said that Belfast had the lowest death-rate during the past year since it became a town. In 1898 in Belfast the death-rate per 1000 from chest diseases was 7·6, while in Dublin it was 9·6. In Belfast the death-rate from all causes was 22·1 per 1000, while in Dublin it was 28·5 and in Cork 23·7. The death-rate of Belfast is now calculated on a population of 350,000 as estimated by the Registrar-General. In Liverpool in 1897 the annual death-rate was 24·3, in Manchester it was 23·1, and in Preston it was 24·3, so that the mortality in Belfast is lower than in any of these towns. Alderman Graham was in favour of destructors being placed in the centre of the city where refuse could be burned at small cost. In the minutes of the Public Health Committee it was stated that they had investigated the causes of the last epidemic of typhoid fever and were satisfied that they arose in a great measure from the water-supply from Stoneyford, but as the Water Commissioners are taking steps to obtain powers to improve the supply the committee hope that the causes would be removed at no distant date and they are prepared to appoint a sub-committee to confer with the Commissioners on the subject.

County Antrim Infirmary.

On the afternoon of April 5th the new wing of the County Antrim Infirmary in Lisburn, known as the Queen Victoria Jubilee Annexe, was opened. This addition, which consists of a room adjoining the original building, was paid for by the townspeople of Lisburn as a practical method of celebrating Her Majesty's Diamond Jubilee. This annexe not only will supply rooms for the nurses but has enabled the governors to open a children's ward as well as two private wards for paying patients.

Presentation to Dr. George Croker.

On April 8th the friends of Dr. George Croker, on the occasion of his retirement as a dispensary medical officer under the Local Government Board after a service of more than 60 years, 32 of which were spent in the Ballymacarrett district of Belfast, met and presented him with an address and a purse of sovereigns (£75). Dr. Croker is one of the very oldest practitioners in Belfast; he graduated M.D. of Glasgow in 1840 and in 1844 he was made a Fellow of the Royal College of Surgeons in Ireland. He was originally an apprentice of the late Dr. Collis of Dublin. He was first dispensary officer at Castlewellan, Dundrum, and Newcastle for eight years. He then took charge of the Fever Hospital and Dispensary at Hillsborough, where he remained from 16 to 18 years, and after this he went to Shandtown (Belfast), where he resided two years, and then he was appointed medical officer to the Castlereagh Dispensary, where he has until quite recently been medical officer.

Death of Dr. Andrew Smyth, of Ballymena.

I regret to announce the death of the oldest medical practitioner in Ballymena, Dr. Andrew Smyth, which took place on April 8th rather suddenly. He was in his usual health up to April 6th when he had a severe chill and became dangerously ill that evening. Dr. Smyth graduated M.D. of Glasgow in 1846 and practised all his life in Ballymena where he has been for some years consulting medical officer of health of the Ballymena Union. He was buried on April 10th, a very large number of friends and former patients following his remains to their last resting-place.

Belfast and District Lunatic Asylum.

At a meeting of the governors of this asylum held on April 10th it was reported that 958 inmates were on the asylum register. An official letter was read stating that the provisions of the new Local Government (Ireland) Act, 1898, are not to come into operation until May 16th next, consequently the existing board of governors will remain in office until then.

New Medical Local Government Board Inspector.

The Local Government Board are about to appoint an additional medical inspector and canvassing is going on at present for the post.

The Prevention of Tuberculosis in Belfast.

It is unfortunate that a good deal of dissatisfaction prevails in Belfast owing to the circumstance that leading citizens, both ladies and gentlemen, who always come to the front in philanthropic and health questions, were ignored at the recent meeting. There was no representation of the clerical profession and, contrary to all precedent in Belfast, no clergyman in orders was amongst the speakers, and, still more extraordinary, none was on the list of office-bearers submitted to the meeting. When a cut-and-dried resolution appointing office-bearers (everyone is asking who nominated them) was proposed members of the Trades Council at once moved and seconded an amendment that their President be added to the committee, one of the speakers saying that on that occasion "the artisan and working classes were quietly walked over and ignored, but he did not think they were in the temper at present to permit it." The Lord Mayor saved a scene by tactfully accepting the suggestion and so the

amendment was withdrawn. At a meeting of the city corporation next day (April 5th) Councillor McCormick—a prominent member—protested against the way in which the chairman (Alderman Graham, M.D.R.U.I.) and the members of the Public Health Committee had been slighted by those who took upon themselves the arrangements of the meeting, which was all the more remarkable as the head of the corporation, the Lord Mayor, was asked to preside. Councillor McCormick is reported in the public press to have said that the suggested remedies (for the prevention and treatment of consumption) "were totally inapplicable to Belfast, and that instead of following chimerical ideas and Utopian schemes it would be better to strengthen the hands of the Public Health Committee." Some members of the medical profession in Belfast, as elsewhere (perhaps they are antiquated and not quite "up-to-date"), are beginning to question the policy at present in vogue of lecturing a non-scientific public on a professional question which is still so largely in the experimental stage. In former times such a practice would hardly have been regarded as consistent with the high traditions of the profession. Others, again, are fearing that time may bring a swing back of the pendulum regarding the unfailing benefits so much vaunted of late in lay magazines of the sanatorium treatment. The meeting would have been more successful had it been arranged on the model of the one recently held in Edinburgh where there was more of a discussion on the subject; and certainly the dissatisfaction which has arisen would have been avoided had those inexperienced persons who apparently ran the meeting summoned beforehand the whole profession to discuss in a friendly way the action which they should take on such an important occasion.

April 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Notes on News.

THE influenza epidemic has this winter assumed very grave appearances. The mortality for the week ending March 31st, 1899, was 1341, while in preceding years the mean weekly mortality for March has been 1057. There is thus an increase of 284, or 40 per diem. In the preceding week there were 238 deaths over and above the mean. This increase is entirely due to pulmonary affections following influenza, the mortality due to other diseases remaining stationary.

The Director of the Assistance Publique has just decided to create a new class of specialists for the hospitals—namely, ophthalmologists—whose ranks will be filled by means of a specially competitive examination. Hitherto the medical officers of hospitals have been divided into physicians, surgeons, and accoucheurs, and even this last class has only existed as such for 15 years, having been brought into being on the motion of Dr. Bourneville, a municipal councillor. This idea met with vigorous protests on the part of the surgeons and three years elapsed before the first *concours* to elect the accoucheurs was held. It is anticipated that the same thing will happen with regard to the ophthalmologists.

The Rating of Private Hospitals.

I have already mentioned[1] the various actions at law to which medical men have become liable owing to the claim of the revenue authorities to make medical men owning a *clinique* pay a professional tax calculated by adding the rental of their private house to that of the *clinique*. This tax amounts to a considerable sum—namely, one-twelfth of the amount of the rent, and this together with the municipal dues which at Paris increase the normal tax twofold comes out at one-sixth of the rent. Many medical men have tried to escape this tax by registering their *cliniques* as *maisons de santé* which are taxed at a much lower rate—namely, at one-fiftieth of the rent. The Conseil de Préfecture has rejected this claim on the ground that medical men give advice and carry on medical practice in their *cliniques*, whereas real *maisons de santé* are only hotels for the sick and consequently pay the hotel tax. The Conseil d'État, whose decision in France is final in disputes between the Government and individuals, has just set aside the decision of the Conseil de Préfecture and has declared that a distinction must be made between the occupation of a medical man and that of the manager of a *maison de santé*. If the same individual carried on the two businesses in two different places he would only pay in each place the tax appropriate to the business in question. In those *cliniques* where patients are supplied with medical attendance and lodging the house would be regarded as divided into two parts, according as the rooms are used for either of the respective purposes. Each part will thus only pay its appropriate tax. To give an example, in a *clinique* which contains 10 sick wards, a consulting-room, and a waiting-room—that is, 12 rooms in all—ten-twelfths of the total rent will supply a basis for assessing the 2 per cent. tax due on a *maison de santé* and the remaining two-twelfths will be added to the rent of the medical man's private residence, and will therefore pay a tax assessed at one-twelfth of the rent (*patente médicale*). This diversity of taxation for the different rooms of one and the same flat may seem grotesque, but such differential taxes are common in France and happily for the medical man the tax which affects his private residence is only charged on the rent of the rooms used for definite professional purposes. For instance, a tradesman who has a shop and lives elsewhere in the town pays two different taxes—one the *contribution mobilière* on his private residence and the other the *patente* on his shop. For the medical man who carries on his practice at his private residence the same distinction is to be observed and his residence is considered as divided into two parts, the one consisting of bedrooms, dining-room, &c., on which he pays only the *contribution mobilière*, and the other consisting of the rooms reserved for patients—namely, the consulting-room and the waiting-room. But the Tax Office is always wanting more and it has imposed the *patente* on the ante-room and the dining-room on the pretence that these are sometimes used as extra waiting-rooms. In a flat where only one room in five or one room in six is reserved for patients the Tax Office has succeeded in levying the *patente* on about one room in three.

The Seventh International Temperance Congress.

This congress held its opening session on April 4th in the large theatre of the Faculty of Medicine, the President being M. Jules Lajeune, a Belgian senator. The congress was officially recognised by the French Government, which was represented by M. Jules Legrand, Under Secretary of State for the Home Department. Dr. Legrain, head physician at the lunatic asylum of Ville-Evrard and president of the Temperance Society of France, to whom is due the credit of having organised this congress, offered a welcome to the members who had come together in great numbers from every part of Europe. There were more than 1000 persons attending the congress and 500 notices were inscribed on the orders of the day. Ministers of various religious bodies took an important part in the proceedings and among them were Monseigneur Turinaz (Bishop of Nancy) and Pastor Rochat of Geneva, who read two very important papers. Medical men were also present in large numbers. Among the most striking communications made were those by Professor Gley, Dr. Brunon, Mrs. Drysdale, and one or two others. Owing to differences in legislation existing in different countries and the difficulty of adopting one hard-and-fast rule to apply to populations living under very different social conditions the congress will hardly be able to do more than come to some general conclusion that temperance principles should be inculcated upon children while still at school. This is perhaps the only thing to be done in France, a country to which the question of alcoholism is very important, for she occupies the first place in the amount of alcohol consumed per head. In some departments, as, for instance, that of the Eure, there is one public-house for every three inhabitants. State control is practically *nil*, for in addition to the fact that restrictions upon personal liberty and licence are very badly borne it must be remembered that the State having begun by burdening alcohol with very heavy taxes has found that such taxes in no way diminish the consumption or the output of alcohol but only make manufacturers turn out a very inferior product so as to gain a larger profit, while, on the other hand, the State cannot afford to give up a very profitable source of revenue. Again, Deputies are very unwilling to vote for any repressive measures directed against tavern-keepers, for taverns are the recognised electoral meeting-places. However, the Education Minister has sent out a circular to all those establishments engaged in the education of children and also to individual

[1] THE LANCET, March 4th, 1899, p. 624.

teachers pointing out how important it is for them to inculcate upon children from an early age a hatred of alcoholic drinks and to impress upon them by means of lectures, pictures, and the like the deadly effects of such drinks. The Anti-alcoholic Society now numbers some 36,000 members and its good effects are already obvious in certain departments by the complaints of travellers in alcoholic drinks who say that business has declined to next to nothing in some places.

April 12th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Condition of the Appendix in Typhoid Fever.

IN an inaugural thesis Miss Hopfenhausen of Lausanne has published an account of the microscopic examination of the appendices of 30 patients who succumbed to typhoid fever. These cases were from four St. Petersburg hospitals, and the conditions existing in the various stages of the fever could be described, as the patients had died at periods of from one to 13 weeks since the commencement of the fever. Some of the conclusions are very instructive. In most cases the appendix takes part in the pathological changes due to the typhoid fever which are observed in the large intestine; this is especially marked during the acme of the illness. There is mostly inflammation of the mucous membrane evidenced by cellular infiltration; rarely are specific lesions found, the latter not sufficient to produce symptoms of true perityphlitis.

Microscopic Test for Small Particles of Uric Acid.

The importance of diagnosis being evident in cases of gravel where very little substance is obtainable, Mr. Albert Brun publishes a note on the subject. Examine the particle in monobromide of naphthaline the index of refraction of which is 1·66. Compare this with indices of refraction of uric acid, 1·73; oxalate of calcium, 1·60; phosphate of calcium, 1·63; and the diagnosis becomes possible under the microscope. If on raising the tube of the microscope the crystal becomes brilliant the substance under the microscope has a higher index than the fluid in which it is immerged; it becomes darker if the substance has a lower index than the fluid. The importance of the test is clear for cases requiring medical treatment or surgical interference. Polarisation offers still further proof, as uric acid particles are dichroic and appear darker in polarised light than oxalates.

A New Chair of Surgery in Zürich.

Dr. Schlatter, whose successful case of total extirpation of a cancerous stomach is well known, has been appointed as Professor to a new chair of Surgery in Zürich. The patient who underwent the above operation and whose case was described fully in THE LANCET,[1] has since succumbed to general carcinomatosis, the glands of the intestines being especially affected, and Professor Schlatter intends to publish further details.—Professor Krönlein, who is known in the surgical world for investigations on cerebral hæmorrhages and their operative treatment, continues to hold the post of Clinical Professor of Surgery.

Zürich, April 7th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Noises in the Ear.

AT a recent sitting of the Reale Accademia di Medicina of Turin Dr. Giuseppe Gradenigo, extraordinary professor of aural medicine in that school, read a paper on the above. He divided noises in the ear into two great categories—first, the "subjective noises," determined by irritable conditions of the organs of hearing; and secondly, "entotic," or true noises, which have their origin in the ear itself or in its immediate neighbourhood and which may be audible even at some distance by the observer when his attention is called to them. Of these latter (*i rumori entotici*) some are of purely vascular origin; others, which are the more rare, are traceable to muscular action—due, that is to say, to clonic contractions of certain muscles. In illustration he introduced a woman, 23 years of age, whose hearing was normal but whose temperament was neurotic and in whom, by rhythmical contractions of the velum pendulum palati and probably by similar contractions of the base of the tongue, the noises of which she complained were actually determined. The patient felt them to be "extremely intense," which Professor Gradenigo and others of his colleagues present at the sitting verified for themselves. They were audible at the distance of as much as half a metre, particularly when the patient held her mouth half open.

Exposition of the "Hygiene of Infancy."

At Milan to-day has been inaugurated the Congress of Infantile Hygiene, at which the medical faculty was fully represented. Dr. Grandi, director of the Ospedale Maggiore, Professor Grossi, director of the "Brefotrofio," and others took part. The proceedings, of which I shall give some account in another letter, possess peculiar interest for Italy and their tenour will have as "a running commentary in object-lessons" an Exposition which has for some days been open to the public. This, according to its philanthropic promoters, "undertakes to exhibit on the amplest and completest scale possible, scientifically and practically, all those provisions which humanity and medicine have devised for the health of infancy, abandoned as it is to-day, especially in the populous centres, whether by the increasing demands of labour or by a lamentable decline in the 'instincts of family,' to mercenary wet nursing (*allattamento mercenario*)." The enormous infantile mortality of Italy as compared with that of other countries justifies the promoters of Congress and Exposition alike in their opportune undertaking. In the Exposition there are on view specimens of every instrument or utensil employed in the alimentation of infancy; the clothing of nurse and of infant in every detail; the furniture of the nursery down to the toys; object-lessons in the various systems of feeding, in rearing, in cleansing, in tendance, such as are practised in the "brefotrofi" (foundling hospitals), in hospitals clinical and orthopædic, and in institutions of infantile hygiene. Coöperating with the medical and educational experts among the promoters of both Congress and Exposition, the Milanese ladies, headed by the Duchessa Visconti di Modrone, are lending an effective hand and contributing in every way to enlist in the cause they have at heart the mothers of Italy in all classes of the community. The whole undertaking deserves the success anticipated for it.

Athletic Sports at the Medical Schools.

Not only in France but in Italy the introduction of British sports is receiving hearty and healthy encouragement. Of these, football is so far the favourite and, significantly enough, it is at Turin and its great university that the game is already most popular. The Professor of Physiology, Dr. Angelo Mosso, is an enthusiastic promoter of it and already his "squadra" or team, consisting of medical students only, appears to best advantage in recent matches. Dr. Baccelli is scarcely less ardent as a friend of the game and in his capacity of Minister of Public Instruction has instituted a prize—"la Coppa (cup) del Ministero della Pubblica Instruzione"—which was awarded on March 26th (for the second time) to the "Angelo Mosso team," victorious in a keenly contested match against a rival "squadra" composed of students of other faculties. These encounters are preliminary to the formation of a crack "squadra," to be drawn from the best players of the Turinese, Genoese, and Florentine schools, which at the close of the month will meet in Turin the Swiss team selected from all the cantons which lately beat the Paris Football Club. This will be one in a series of international matches which must tend to invigorate the physique of undergraduate Italy and to prove a salutary substitute for the exercises of the pistol-gallery or the fencing-saloon.

April 8th

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Insanity in New South Wales.

THE report of the Inspector-General of the Insane in New South Wales for the year ending Dec. 31st, 1897, has been presented to Parliament. The number of insane was 3957, an increase of 112 during the year but less than the average of the last few years. From 1872 to 1891 the proportion of

[1] THE LANCET, Jan. 15th, 1898.

insane to population, though varying slightly from year to year, remained practically stationary, but during the six years from 1892 to 1897 the proportion has increased from 2·69 per 1000 to 2·99 per 1000. The number of admissions during the year was 692, also less than had obtained for several years. The Inspector-General, Dr. Eric Sinclair, thinks the reduced number may be due to the improvement in the general condition of the colony and the recovery from the financial depression which undoubtedly was the cause of a large number of cases of insanity. The number of patients discharged during the year was 327, of whom 287 recovered and 40 were relieved. The deaths numbered 249, the cause of death in 134 cases being disease of the brain.

The "Tana Mystery."

A case of considerable medical interest has recently been concluded in the Melbourne Criminal Court. The public interest in the case which was known as the "Tana Mystery" was intense; the medical interest centred in the fact that a medical man—Dr. W. H. Gaze—was concerned, and in the doubt which existed as to the exact cause of the death of a girl named Ambrose whose body was found in a boot-box floating in the river Tana. A post-mortem examination by Dr. Neild showed that the girl was pregnant and that the cause of death was suffocation. He could find no evidence as to how the suffocation had been produced but he suggested the possibility of the administration of chloroform. He could find no evidence of attempted abortion. He also gave an estimate of the girl's age which proved to be incorrect and helped to put the police off the track in identifying the body. Eventually a girl named Dubberke made a confession and on her evidence the case mainly rested, resulting in a verdict of murder against another woman named Radalyski and a man named Tod and the acquittal of Dr. Gaze. The facts were that Tod seduced the girl Ambrose and then took her to Radalyski for the purpose of procuring abortion. This was attempted by the use of an electric battery and in other ways without success. Then she went in company with Dubberke to Dr. Gaze and after a conversation on Dec. 12th in which she explained what she had done he gave some advice. On the morning of Dec. 13th Dr. Gaze proceeded to treat the girl again. Dubberke said that she heard screams and on going to the room she found Radalyski with her hand on the girl's mouth; the girl was livid and foaming at the mouth and was dead. Dubberke said that Dr. Gaze had advised the injection of Condy's fluid into the womb for the purpose of procuring abortion and that he had warned them that it might cause shock and would possibly be dangerous. Dr. Gaze swore that he only recommended a vaginal injection of Condy's fluid to obviate sepsis. Dr. Neild found no trace of Condy's fluid in the vagina or in the uterus. After the girl was dead the woman sent for Dr. Gaze who went out to South Farm and saw the body but refused to give a certificate of death. The women and Tod then packed the body in a boot-box and put it in the river. Dubberke told Dr. Gaze what had been done and he said that the body would float owing to the permeation of gas from decomposition. Although there was the greatest public excitement over the case and large rewards were offered, Dr. Gaze maintained silence until the girl Dubberke confessed. Dr. Gaze, whose qualifications are M.R.C.S. Eng., L.R.C.P. Lond., and M.D. Brux., is conducting an advertised establishment called the "Polypathic Institute" in partnership with an unqualified man named Freiman.

Sanatorium for Phthisis at Macedon.

Eight years ago a sanatorium for cases of phthisis was opened at Echuca, in Victoria, by a number of philanthropists, but it did not receive the public support which it deserved. During the summer, too, the climate was too hot. Now that the open-air treatment is receiving so much attention the committee have established another institution at Macedon, providing accommodation for 25 patients. It is at a considerable elevation, 2700 feet above sea level, and it has a more bracing climate than Echuca. The sanatorium is surrounded by a forest of eucalyptus and pine and is provided with numerous sun-boxes. The new buildings were formally opened on Feb. 25th.

Launceston Hospital.

The last step in the Launceston Hospital difficulty has been the appointment of a conference between the paid hospital officers, the honorary consulting staff, and the chairman and vice-chairman of the board, with a view of increasing the interest of the honorary staff without radically altering the present system.

Balmain Cottage Hospital.

Although in Launceston the profession is agitating for the establishment of an honorary medical staff at the hospital, at Balmain, in New South Wales, a heated discussion occurred at the annual meeting of the governors of the hospital as to whether patients should be under the care of a paid or an honorary staff, the majority of the profession advocating a paid resident. Finally, an amendment was carried leaving it optional with patients whether they would be treated by the paid resident staff or by the honorary staff.

Amœbic Pulmono-hepatic Abscess.

In the *Australasian Medical Gazette* for February Dr. J. C. Verco of Adelaide records a very interesting case of amœbic abscess in the liver secondary to dysentery which ruptured through the diaphragm and lung. Dr. Verco claims that it is the first case in which the amœba dysenteriæ has been recognised in South Australia and the first one in which amœbic abscess of the liver has been proved to originate in Australia. Other cases have been imported, chiefly from the South Sea Islands, but this patient would appear to have contracted the disease in the colony. The amœba was discovered in the expectoration during life and in the discharge from the abscess after operation. The patient died and Dr. Verco takes a very unhopeful view of such cases. The amœba infiltrates the tissues and causes their disintegration, and unless the parasite can be destroyed recovery seems almost impossible and the treatment of the original seat of disease in the bowel seems hopeless.

March 5th.

Obituary.

JOHN FENTON EVANS, M.B., C.M. EDIN.,

MAJOR, INDIAN MEDICAL SERVICE.

THE death from plague of Major J. F. Evans, Professor of Pathology in the Medical College, Calcutta, is a profound loss not only to his many personal friends but also to the Indian Medical Service.

The exact mode in which Major Evans contracted the disease from which he died is not known, but he had been much exposed to the risk of infection. He had been in charge of the plague wards in the Medical College Hospital ever since plague appeared in Calcutta and had made post-mortem examinations of the bodies of plague patients even up to the day upon which he himself developed symptoms of the disease. The onset, which was rather insidious, was probably on March 7th. On the following day the symptoms were fully developed and the presence of a small glandular swelling in the right axilla left no doubt as to the diagnosis. The attack was from the first a grave one, though a marked improvement in the symptoms on the fourth and fifth days of the disease led to the hope that the worst might be over. Unfortunately these hopes were not destined to be realised. On the evening of March 12th a marked change for the worse set in, accompanied by rise of temperature and delirium, and on the following morning his condition was seen to be hopeless. He passed away quite quietly at 3 P.M. on March 13th.

Major Evans's career in the profession and in the service had been an exceptionally distinguished one. He was born in 1858. In 1880 he graduated M.B. and C.M. at the University of Edinburgh. Almost immediately after graduating he joined the Bristol Medical School with the object of making a special study of anatomy and physiology. In September, 1881, he was chosen as medical tutor to the Bristol Medical School, and in this capacity and later as house physician and house surgeon to the Infirmary he remained connected with Bristol for five years. In April, 1886, he entered the Indian Medical Service. At Netley he obtained the first prize in clinical medicine and the second prize in military surgery. He arrived in India in October, 1886, and was for short periods of time attached to the 20th Punjab Infantry and the 39th Bengal Infantry, in Allahabad and Umballa. From 1887 to 1889 he was on field service in Burmah, partly with the Upper Burmah field force

and partly as staff surgeon with the Chin field force. After leaving Burmah he was attached to various regiments at Mian Mir and Jubbulpore until October, 1889, when he was permanently appointed to the charge of the 18th Bengal Infantry. After 15 months at home on medical certificate he returned to India in 1891 and was shortly after on field service again in the North Lushai Hills and with the Eastern Surma column. For his services here he was thanked by the general officer commanding.

In 1893 and again in 1894 and 1895 he held the appointments of professor of chemistry in the Lahore Medical College and chemical examiner to Government. In the following year he acted as resident physician and professor of pathology in the Medical College, Calcutta—appointments to which, after acting for brief periods as civil surgeon in various stations, he returned permanently in January, 1897.

Major Evans's contributions to medical literature were few, but they were always marked by extreme carefulness of observation and clearness of expression. Unfortunately much of his original work and observations upon the diseases of India has not been published; but it is hoped that the notes which he is known to have left may prove sufficiently full to enable others to prevent this really valuable material from being entirely lost. Among his published writings must be named a valuable report upon the deterioration of atta (flour) for which he received the thanks of Government; a report upon the field rations of the Madras sepoy, for which he was also thanked by Government; and a report upon the various poisons used for criminal purposes in India. He had worked at bacteriology in Berlin and at the Brown Institution, and the result of an investigation carried out at the latter was communicated to the Royal Society in 1891 under the title "On the Demonstration by Staining of the Pathogenic Fungus of Malaria; its Artificial Culture and the results of Inoculation of the Same." He had devoted much time to the study of the malarial organism and the blood in malaria, and among his unpublished papers have been found a number of original observations upon this disease. Other subjects upon which he has left valuable but, it is believed, unpublished original material, are the etiology of dysentery; the organisms of cancer and particularly their analogy with those of malaria; an undescribed nematode entozoon found in the intestines of sepoys; a new species of rhopalomyces and blood deterioration in apparently healthy individuals in malarial districts in Assam. In December last he gave evidence before the Indian Plague Commission and he was personally congratulated by the Commissioners upon the interesting nature of his observations.

It is easy to write of Major Evans's professional attainments; it is less easy to put into words the feelings of sorrow at his death or to attempt to appraise his personal character and worth. No man was more highly, more universally, or more deservedly held in esteem by all with whom he had relations, and no man was more beloved by the few who knew him intimately. None was ever more conscientiously devoted to his duty, to which, in the most literal sense of the words, he sacrificed his life. The deepest sympathy is felt by all for his relatives in their great loss—a sympathy which is accentuated by the fact that he was very shortly to have proceeded home, and only on the day when the disease attacked him had he made the final arrangements for obtaining leave.

WILLIAM SQUIRE, M.D. ST. AND., F.R.C.P. LOND.

DR. WILLIAM SQUIRE, whose death we announced in THE LANCET of April 8th, was born on Dec. 1st, 1825, at Silsoe, in Bedfordshire. He was the second son of William Peppercorn Squire of Silsoe and began to study medicine under the late John Bolton Hodgson of Chesham. After a short pupilage he entered University College, London, in 1846. He studied medicine at the University College Hospital and was the winner of various medals and prizes, ending with the gold medal for surgery in the year 1849. In or about the year 1849 he was appointed house surgeon. During his time at the hospital he administered ether for the performance of a capital operation—namely, amputation through the thigh, the amputation being performed by Robert Liston. An account of this incident from the pen of Dr. Squire himself appeared in THE LANCET of Dec. 22nd, 1888. The operation was performed on Dec. 21st, 1846. After obtaining the usual double qualification Dr. Squire went to Paris where he studied under the best French medical men of the day and more especially under Trousseau at the Hôpital des Enfants Malades. In 1850 the systematic taking of the temperature of a patient had just begun and the instrument employed was the long-stemmed axillary thermometer which attracted Dr. Squire's attention. On his return to England the first short-stemmed thermometer was made for him by Arnold of Smithfield.

In 1851 Dr. Squire was appointed medical superintendent to the St. Marylebone Infirmary and administered a very complete system of centralised parochial medical relief, by which patients seriously ill could be received into the infirmary without becoming pauperised. He and Dr. Murchison were among the selected candidates for the first appointment of medical officer of health of St. Marylebone. In 1854 Dr. Squire settled in Orchard-street, Portman-square. He became a Licentiate of the Royal College of Physicians in 1861 and a Member in 1871, and soon after took the degree of M.D. at St. Andrews. He then became physician to the St. George's Dispensary, Hanover-square, and to the North London Hospital for Consumption and Diseases of the Chest.

Dr. Squire took much interest in preventive medicine and wrote a good deal on the subject as well as on infectious diseases. Among his published works were "Collected Essays in Preventive Medicine," "Infection and Disinfection," and "The Prevention of Scarlet Fever and Use of Disinfectants." For Reynolds's "System of Medicine" he wrote the articles "Exanthemata," "Rubella," "Incubation," "Measles," "Scarlet Fever," and "Whooping-cough," and for Quain's "Dictionary of Medicine" "Health in the Nursery and School." As secretary of the Epidemiological Society his contributions with regard to the incubation periods of different infective diseases and varying duration of infection in each disease led to renewed attention to this branch of pathology.

ALFRED THOMAS GIBBINGS, M.D. LOND.

DR. A. T. GIBBINGS was born at Woodbury, Devon, in 1848, but his family within a few years removed to Chichester. He entered the medical profession first as a pupil of Dr. Leonard Buckell of that city and then as a student at King's College of which he became an associate, scholar, and prizeman. He took the diplomas of M.R.C.S. Eng. and L.S.A. in 1869, subsequently graduating as M.B. Lond. in 1870 and M.D. in 1874. After becoming qualified he was for a time house surgeon to the Stamford, Rutland, and General Infirmary. He then entered on private practice in partnership with Dr. Daly and Dr. Long of Dalston, N.E., and at the time of his death was a member of the firm of Daly, Gibbings, and Hunt. For two years he had had reason to suspect degenerative change in the cardiac muscular tissue, but he consulted no one, having resolved to work to the end and live his life in his own way. During the past winter his practice was unusually onerous, partly from the prevalence of influenza and partly from the multiplication of his duties as a public vaccinator by the legislation of last year. He greatly felt the strain and his appearance caused anxiety to his friends. In the weeks preceding Easter he had been attending, among other patients, three cases of pneumonia in one house. On March 31st he was himself in a febrile condition. This continued, but he could not be persuaded to relinquish work until April 3rd. On April 4th symptoms of pneumonia were evident and he died on April 9th. Dr. Gibbings's chief characteristics were his cheerful, happy temperament, his unfailing kindness, his strict integrity, his simple straightforwardness, and his dislike of ostentation. He took so strong an interest in his profession that he enjoyed his practice, taking not merely a scientific but a human interest in his patients, by whom he was in consequence trusted and beloved to no common degree. He had the esteem and goodwill of every medical man without exception in his neighbourhood as well as the warm friendship of those who knew him intimately.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Waldo van Arsdale, Professor of Surgery in the New York Polyclinic.—Dr. J. A. Benson, Professor of Physiology in the Chicago College of Physicians and Surgeons.—Dr. Lucas, a medical officer of high rank in the French navy.—Dr. Girard, a Marseilles Physician of eminence.—Dr. Arthur Ramlot, a well-known Brussels Practitioner.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated:—

Thursday, April 6th:

Anatomy and Physiology.—Thomas Corrie Rutherfoord, St. Thomas's Hospital; Carrick Hey Robertson, William Henchman Cole, George Herbert Hind Manfield, Alfred Herbert Edwin Wall, William Edward James Tuohy, Joseph Tremayne Hicks, and Edgar Faulks, Guy's Hospital; John Henry Douglas Bolton, Harold Ashton Lyth, George Francis Innes Harkness, and Charles Alwis Hewavitarna, University College, London; Harold Farley Seymour and Moses Thomas Williams, London Hospital; Charles Frederick Day, Charles Jerome Alexander Nicolai Mercier, and James Couper, Charing Cross Hospital; Edward Augustine Bell, King's College, London; Gerald Stephen Hughes and William Arthur Rees, Middlesex Hospital; George Tatham Davison Elder, Cambridge University and St. Mary's Hospital; and Frank Herbert Noke and Thomas Crofts Neville, St. Bartholomew's Hospital.

13 gentlemen were referred in both subjects.

Friday, April 7th:

Anatomy and Physiology.—Charles Uncles Ind, St. Thomas's Hospital; Julius Harold Hurst, Yale University and St. Thomas's Hospital; Albert Edward Pinniger and Dansey Smith, Middlesex Hospital; Lennard William Forsyth, Cambridge University and Middlesex Hospital; Ernest Roberts, Frank Leslie Thomas, Marcus Woolf Cohen, Harold Thornbury Palmer, Kenneth Anderson, and Thomas Morland Smith, Guy's Hospital; Forbes Manson, Grant Tullock, Hugh Marcus Major, and Frederick Samuel Langmead, St. Mary's Hospital; Robert Hammersley Lee, King's College, London; Leonard Robert Tosswill, Lionel Cecil Ferguson, Norman Macfadyen, Noel Everard Waterfield, and Lawrence Galsworthy, St. Bartholomew's Hospital; John Jones, London Hospital; and James Weeden Woodhams Adamson, St. George's Hospital.

Anatomy only.—Ernest William Toulmin, St. Mary's Hospital; and Stanley Bean Atkinson, St. Bartholomew's Hospital.

Physiology only.—Francis John Russell, London Hospital; and Urban Morris Asplin, Cambridge University and King's College, London.

13 gentlemen were referred in both subjects, four in Anatomy only, and two in Physiology only.

The following gentlemen passed the **First Examination** of the Board under the "Four Years" regulations in the subjects indicated:—

Part I., Chemistry, including Chemical Physics.—Ricardo Adolfo Robinson, University College and the School of Science, Technology, and Art, Liverpool.

Part II., Materia Medica and Pharmacy.—Walter Seymour Armstrong, St. George's Hospital; James Ross Clements, Jefferson Medical College, Philadelphia, Cambridge University, and St. Thomas's Hospital; Alfred Gentel, St. Mary's Hospital; Major Byron Oliver, University College, London; and Elijah Richard Lockwood Thomas, London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the Preliminary Science Examination for the Licence in Dental Surgery:—

Chemistry, Physics, and Practical Chemistry.—Harold Chapman, Bernard Swale Dewhurst, and Herbert Cragg Highton, Victoria Science and Art School, Southport; Leonard Myer and Walter Sidney Rose, Birkbeck Literary and Scientific Institute; John George Morrell, High School, Middlesbrough; and Thomas Stordy, The Harris Institute, Preston.

14 gentlemen were referred for three months.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held in April the following candidates passed in the subjects indicated:—

PART I.

Biology.—E. J. Howes and A. J. O'Leary, Liverpool; D. Roberts, University College Hospital; E. P. Turner, Birmingham; and E. N. L. Wilson, Royal Free Hospital.

Chemistry.—A. J. Ambrose, Westminster Hospital; L. Denny, Royal Free Hospital; G. P. K. Grey, Middlesex Hospital; E. M. Handley, Royal Free Hospital; E. J. Howes, Liverpool; A. H. Muirhead, St. Bartholomew's Hospital; A. J. O'Leary, Liverpool; H. G. Peel, Leeds; and Z. Rowlands and E. N. L. Wilson, Royal Free Hospital.

Materia Medica and Pharmacy.—St. C. G. Ballenden, Birmingham; T. Burdekin, University College Hospital; J. C. S. Dunn, St. Bartholomew's Hospital; A. B. Dunne, Cambridge and Leeds; F. R. Featherstone, Guy's Hospital; T. L. A. Jones, Cardiff; A. J. O'Leary, Liverpool; and G. H. Watson, St. Bartholomew's Hospital.

PART II.

Anatomy.—J. M. Barlet, St. Mary's Hospital; J. H. Bennett, Birmingham; C. C. Bernard, Royal Free Hospital; W. E. Cuthbertson, Bristol and Glasgow; H. J. Gater, Guy's Hospital; S. K. K. Haslam, Royal Free Hospital; F. Heffer, Cambridge; S. F. Hickman, Royal Free Hospital; G. W. C. Hollist, Guy's Hospital; R. L. Jones, Cambridge and Middlesex Hospital; A. Kellgren, Royal Free Hospital; J. M. King, Edinburgh and University College Hospital; C. E. H. Leggatt, St. Mary's Hospital; F. Marriott, Edinburgh; J. L. Martin, St. Mary's Hospital; A. E. Maturin, Guy's Hospital; O. C. H. L. Moll, Durham and Guy's Hospital; G. Raymond, St. Thomas's Hospital; D. Roberts, University College Hospital; W. Thorp, Royal Free Hospital; and J. E. Turle, University College Hospital.

Physiology.—J. M. Barlet, St. Mary's Hospital; J. H. Bennett, Birmingham; C. C. Bernard, Royal Free Hospital; E. J. Crew, Guy's Hospital; S. R. Dudley, St. Bartholomew's Hospital; H. J. Gater, Guy's Hospital; F. Heffer, Cambridge; S. F. Hickman, Royal Free Hospital; G. W. C. Hollist, Guy's Hospital; R. L. Jones, Cambridge and Middlesex Hospital; F. P. Josselyne, Leeds; A. Kellgren, Royal Free Hospital; C. E. H. Leggatt, St. Mary's Hospital; N. Lipscomb, St. Bartholomew's Hospital; F. Marriott, Edinburgh; J. L. Martin, St. Mary's Hospital; H. Mills, St. Bartholomew's Hospital; O. C. H. L. Moll, Durham and Guy's Hospital; D. Roberts, University College Hospital; W. Thorp, Royal Free Hospital; J. E. Turle, University College Hospital; and F. J. Turner, Guy's Hospital.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

Robert Adam (Z., C.), James Richard Sunner Anderson (B., Z., C.), George Beattie (Z., C.), Archibald Grainger Bisset (C.), William Robertson Blackwood (B., P., C.), John Shaw Monahan Bogle (Z.), William Thomas Bolton (Z., C.), Robert George Bradford (Z.), James Campbell Bringan (P.), Thomas Brodie (B.), John Brown (B., Z.), Carl Hamilton Browning (Z., C.), Robert Bruce (C.), Robert Harold Campbell (Z.), Thomas Murdoch Campbell, M.A. (Z.), Alexander Adam Carruthers (B., Z.), Robert Pepoe Cartwright (B., C.), Andrew Connal (Z.), Thomas Goodall Copestake (B., Z., P.), John Craig Crawford (Z., C.), John Cross (B., Z.), Weir Burns Cunningham (Z.,* C.), Hugh Collin Davies (B., Z., P., C.), Mitchell Innes Dick (P., C.), David Dickie (Z., C.), David Garfield Dykes (Z., C.), James Eadie (Z.,* C.), James Ferguson (B., C.), Cunison Charles Finlator (Z., C.), William Macmillan Gilmour (Z.), George Gordon (C.), Alexander Greig (Z., C.), John Hanson, M.A. (Z., C.), Saul Hyman Harris (B.), William Harvey (Z., C.), John Monnette Huey (B., P.), John Gordon Hume (B., Z., C.*), Alexander Hunter (B., Z.), James Thompson Kelly (B., C.), John Muir Kelly (Z., C.), John Kerr (Z., C.), Robert Laurie (B., C.), Alexander Leggat (P.), Robert Thomson Leiper (Z., C.), Richard Makins (B., P.), Peter Millar (Z.,* C.), William Alexander Milne (P.), Alexander John Mitchell (Z., P.), David Robertson Mitchell (Z., C.), Spencer Mort (Z.,* C.*), John Baird Morton (Z., C.), Gavin Muir (Z.), Gavin Denholme Muir (Z.), Alexander Hugh Munro (Z.), John Bertram M'Cabe (C.), James Duff M'Culloch (Z., C.), Joseph Glaister M'Cutcheon (Z.), David Duncan Fraser Macintyre (Z., C.), Charles Gordon Mackay (Z.*), John Matheson M'Kellar (P., C.), John Chancellor M'Kenzie (C.), Alexander Stewart M'Millan (Z.), Norman Thomas M'Murdo (Z.), Norman Smith MacNaughtan (B., Z.), James Roy M'Vail (C.), James Anthony Macvea (Z.,* P.), Andrew Alexander M'Whan (B.*), David Penman (B., P.), William Murdoch Rae (B., P.), George Raeburn (Z., C.), William Rankin (B., Z., P., C.), George Richmond (B., Z., P., C.), Peter Hamilton Robertson (Z., C.), Campbell Ross (Z.), James Russell (P.), Robert Clemens James Schlomka (B., P.), William Garrow Shand (Z.,* C.), John Macgregor Smith (Z.,* C.), James Alexander Somerville (B., P.), John Stevenson (B., Z.), John Black Stevenson (Z., C.), William David Henderson Stevenson (Z.,* C.), Norman Burgess Stewart (Z.), Arthur William Sutherland (Z., P.*), John Wilson Sutherland (Z., C.), Peter Lindsay Sutherland (Z., C.*), John Allan Thom (B.), Joseph Walker, M.A. (Z., P.), George Wallace (C.), Alexander M'Millan Watson (Z.), William Norman West Watson (Z.), Alexander Brown Watt (C.), Robert Tait Wells (B., C.), John Forrest Weston (B.), James Wilson (Z., C.), Eldred Wright (Z., C.), Hugh Young (Z., P.), and John Young (Mount Vernon) (Z., C.).

Women.—Jeanie Auld (P., C.), Annie M'Caig Black (P., C.), Agnes Wallace Cameron (P., C.), Mary Charlotte Cameron (C.), Jessie Galloway Duncan (P., C.), Jane Reid Foulds Gilmour (C.), Margaret Hardy (P., C.), Anna Pollock Martin (P., C.), Eliza Jane Miller (P., C.), Isabel Deane Mitchell (P.), Jane Hamilton M'Ilroy, M.A. (Z., C.), Alice Wesley Maclean (C.), Ethel Jane Mildred Pryce (C.), Margaret Hossack Smart (B., P.), Jessie Marie Stewart (P.), Elisabeth Taylor Tulbert (B., C.), and Janet Gardner Waddell (B.).

* Passed with distinction.

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; and M., Materia Medica and Therapeutics):—

John Anderson (A.), Thomas Anderson (A., P.), William Archibald (P.), Robert Wellwood Auld (A., P.*), John Stoddart Barr (A., P.), Alexander Birch (A.), William Macalister Brown (A.,* P.,* M.*), Patrick Thomas Cairns (A.), Samuel James Cameron (A.,* P.), John James Young Campbell (M.), Robert David Campbell (A., P.), Edward Seymour Chapman (A.), George Herbert Clark (P.), James Bertie Wylie Cook (A., P.), James Craig (A., M.), Andrew Currie (A., P.), David Beattie Davidson (A., P.), James Davidson, M.A. (M.), Frank Lindsay Dickson (A.), Reginald Nairn Dunlop (A., P.), William Watt Farrar (A., P.), George Ferguson (A., P.), Duncan Johnston Fletcher (A.), David George Somerville Garthshore (A.), James Gemmell (P.), John Ritchie Gilmour (P.), William Girvan (A., P.), James Dickson Gourlay (M.), Archibald Gow (A., P.), John Gracie (M.), Andrew Parlane Granger (A., M.), John Gregor (A., P.), George Pillans Harian (A., P.), Leslie Charles Broughton Head (A., P.), Francis Joseph Henry (A., P.), Charles Milburn Hope (M.*), Douglas William Hunter (A., P., M.), Matthew Hunter (A., P.), William Johnstone Isbister (A., P.), Pierce Jones (P.), William Bryce Kerr (A., P.), Daniel Ross Kilpatrick (A., P.), Alexander King (P., M.), James Dickson Laidlaw (M.), John Lambie (M.), John Francis Lambie (A., P.), Alexander Leitch (M.), Francis Joseph Lochrane (A., P., M.), David Longwill (M.*), Edward Magoveny (A., P., M.*), William Alexander Masson (A., P.), William Archibald Mills (A., M.), William Alexander Milne (A., P., M.*), A

Alexander Robert Moir (A., P.), Alan Howie-Muir (A., P.), Walter James M'Feat (M.), William Ferguson M'Glashan (A., P.), Thomas M'Laren (M.), George Williamson M'Millan (P.), James M'Pherson, M.A. (M.*), Robert Orr (A.), Robert Paterson (M.), John Paton (A., P.), James Nimmo Prentice (A., P.), Robert Ramsey (A., P.), Thomas Hood Rankin (M.), Andrew Reid (P.), William Robertson, Kilmarnock (A., P.), Thomas Ritchie Rodger (A., P.), William George Rodger (A., P.), Norman Cumming Rogers (A.), Andrew Taylor Ross (A.), Charles James Ross, B.A. (A., P., M.), Edward Henry Ross (M.), Andrew James Smith (P.), James Smith (P.), David Spence (M.), Donald Steel (A., P.*), Andrew Stewart (A.), John Stewart, M.A. (P.), Robert Rennie Swan (P.), Robert Bryers Thom (A.), James Nathanael Todd (A., P.), Joseph Goodwin Tomkinson (A., P.), John Turnbull (A., M.), William Dinning Walker (M.*), George Smith Wallace (A., P.), Peter Millar Waugh (M.), Robert George White (A., P.), Morgan Watkin Williams (A.), David Ashley Wilson (A.), James Wilson (M.), William Webster Watt Wilson (M.), Robert Wylie (A.), and William Robertson Wylie (A., P., M.).

Women.—Martha Adams (A., P., M.), Daisy Annabella Murdoch Clark, B.Sc. (M.*), Helen Mary Gordon (A.), Catherine Spence Howden (M.), Janet Thomson Miller (M.), Alice Moorhouse (A., P.), Mary Janet Pirret (A., P., M.*), Mary Emma Potter (M.), Margaret Mitchell Ritchie (M.), Mary Ann Thompson Ritchings (A.), Agnes Bankier Sloan (P., M.*), Elizabeth Macfarlane Sloan (P., M.*), Elizabeth Helen Smith (M.), and Henrietta Fraser Young (A., P.).

* Passed with distinction.

UNIVERSITY OF ABERDEEN.—The following degrees and diploma have been conferred:—

Degree of Doctor of Medicine (M.D.).—*William Findlay, M.A., M.B., Aberdeen; George Alex. Reid, M.B., Bournemouth; George Savege, M.B., Beverley, Yorks; Aaron M. Sims, M.B., Sparkbrook, Birmingham; and Robert B. Tydd Stephenson, M.B., Berbice, British Guiana.

* Thesis considered worthy of commendation.

Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) (Old Ordinances).—Robert Alexander Batchan, Ruthwell, Dumfriesshire; Leonard Cotterill, Weybridge, Surrey; Alexander Brown Cruickshank, Aberdeen; John Halley, Aberdeen; Donald Mackenzie, Fairburn, Muir of Ord, Ross-shire; Richard Norris Petrie, Alford, Aberdeenshire; Alex. Charles Profeit, Dinnet, Aberdeenshire; and Joseph Sebastian de Silva, Moratuwa, Ceylon.

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) (New Ordinances).—Alex. Henderson Cran, M.A., Nigg, Ross-shire; James Matthews Duncan, M.A., Aberdeen; Cecil Vivian Moore Etienne Le Fanu, Cassel, Germany; †George Alexander Finlayson, M.A., Aberdeen; John Charles Galloway, M.A., Oyne, Aberdeenshire; Arthur Norman Haig, M.A., Ahmednagar, Bombay, India; Charles Hunter, M.A., Rothie-Norman, Aberdeenshire; Francis Alex. Innes, M.A., Skene, Aberdeenshire; John Wm. Lindsay, M.A., Peterculter, Aberdeenshire; James Henderson Mackay, M.A., Aberdeen; John McPherson, Aberdeen; †George Alexander Mavor, M.A., Aberdeen; Alex. Mennie Mitchell, M.A., Old Rayne, Insch, Aberdeenshire; Charles Murray, M.A., Aberdeen; Alex. Bruce Simpson, Alford, Aberdeenshire; James Alex. Stephen, M.A., St. Andrews—Lhanbryd, Elgin; †Lessel Philip Stephen, M.A., Inverurie; William Edward Taylor, Aberdeen; James Alex. Tolmie, M.A., Glenglassaugh, Portsoy, Banffshire; and John Horne Wilson, Aberdeen.

† Graduated with honourable distinction.

‡ Passed Final Examination with credit.

Diploma in Public Health.—§Alexander Keith Campbell, M.B. (Edin.), Montrose; Wm. Ironside Moir, M.B. (Aberd.), Aberdeen; and Wm. Henry Neilson, M.B. (Aberd.), Major, Indian Medical Service.

§ With credit.

Degree of Bachelor of Science (B.Sc.).—David M. Gall, Carnoustie (with special distinction in Geology); Charles D. Rice, M.A., Aberdeen (with special distinction in Chemistry); and George I. T. Stewart, M.B., Ch.B., Banchory, Aberdeen (with honours, under old regulations).

HOSPITAL SATURDAY FUND.—The twenty-fifth annual report, published at the office of the Hospital Saturday Fund, 54, Gray's Inn-road, W.C., shows that the total income during 1898 was £19,148 as against £20,138 in 1897. The total sum awarded was £17,029 to 173 institutions, as against £17,627 to 169 institutions in 1897. The two highest awards to individual institutions were £879 to the London Hospital and £403 to the Middlesex Hospital. The four highest collections received from the employés of individual establishments were £595 from the Royal Arsenal, Woolwich, £385 from the General Post Office and branches, £215 from the South Metropolitan Gas Company, and £174 from the Army and Navy Coöperative Society, Limited. Mr. R. B. D. Acland, chairman of the Fund, has resigned that position and has been elected a vice-president. In his annual address he states that although the street collections were abandoned in 1898, yet the sum distributed was almost, if not quite, equal to the largest sum distributed prior to 1897. The new chairman is Mr. E. M. Bonus. Hospital Saturday this year will be Oct. 14th.

LITERARY INTELLIGENCE.—Mr. J. Y. W. MacAlister, the librarian of the Royal Medical and Chirurgical Society, is engaged upon a collective biography of the principal medical men of the nineteenth century. There is little that is new to be said of those belonging to the first half of the century, but Mr. MacAlister's close acquaintance with the profession at the end of the century should make the work authoritative as well as interesting. Messrs. Macmillan are the publishers.

THE SOCIETY OF CHEMICAL INDUSTRY.—Dr. Thudichum read a paper before this society on Monday last, entitled, "The Industrial Technical Treatment of Sherry and of British Colonial Wines," which was stated to be a reply to our Commission on the "Production, Composition, and Character of Sherry." We await with interest the publication of Dr. Thudicum's paper.

THE NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—The annual dinner of this society took place in the Venetian Room of the Midland Grand Hotel on Thursday, April 6th, and was a thoroughly successful function. Mr. Frank Godfrey, the President, took the chair, and was supported by Dr. Glover, Dr. Rose Bradford, F.R.S., Mr. C. B. Lockwood, and Mr. H. W. Allingham among others. The toast of the evening, "The North London Medical and Chirurgical Society," was responded to by Mr. Lockwood who in a speech of considerable vigour desired to infuse into the society "a healthy spirit of discontent with itself." He did not say that the society was doing badly, but he said very clearly that he thought it should do better, and the same sentiment peeped out in the words of several other speakers. Dr. Glover proposed "The Sister Societies," which toast was responded to by Dr. Rose Bradford, and Dr. R. W. Burnet proposed "The Guests," for whom Surgeon-General Don made suitable reply. Dr. G. de B. Watson and Dr. W. A. Malcolm were much applauded for the songs with which the speeches were interspersed, as was Mr. P. Trael Harris for a flute solo.

PRESENTATIONS TO MEDICAL MEN.—At the usual fortnightly meeting on March 29th of the Loyal St. George Lodge, No. 3840, I.O.O.F., Manchester Unity, Mr. F. Turtle, M.D. St. And., M.R.C.S. Eng., on his retiring from the post of medical officer after 32 years' service, was the recipient of an address on vellum with a gold frame and an ebony walking stick with silver band on which is engraved, "Presented to Dr. F. Turtle by the 'St. George' Lodge, No. 3840, M.U.I.O.O.F., March 29th, 1899."—On March 31st Mr. Robert Marshall, L.M. Dub., L.S.A., of Douglas, Isle of Man, was presented in the Guild Parlour at Rosemount by members of his ambulance classes with a token in recognition of the care with which he had instructed the classes as lecturer.—On March 25th in the theatre of the Belfast Royal Hospital an address and valuable collection of instruments were presented to Dr. Alexander Montgomery, the senior house surgeon, on the occasion of his resignation. The presentation was given by the students, not only by those who were resident with Dr. Montgomery and the members of his clinical class but also by all the students attending the hospital.—On March 25th Mr. R. H. Edmondson, the manager director of the Garswood Hall Colliery Company, Ashton, distributed certificates to the successful candidates in the recent examination held under the auspices of the St. John Ambulance Association and afterwards on behalf of the local class presented Mr. W. Latham, L.R.C.P. Irel., M.R.C.S. Edin., the instructor, with ten volumes of "Chambers's Encyclopædia."

Parliamentary Intelligence.

HOUSE OF COMMONS.

MONDAY, APRIL 10TH.

Lead Poisoning.

MR. M'KENNA asked the Home Secretary whether his attention had been called to the conclusions arrived at by Professor Thorpe and Professor Oliver in their report on lead compounds in pottery; and, whether, in view of those conclusions, the Factory and Workshop Bill which he had stated his intention to introduce this Session would contain provisions for prohibiting the use of lead for glazing earthenware in those particular kinds of ware in which it had been proved to be unnecessary; for prescribing the use of lead in the form of a fritted double silicate; for prohibiting the use of raw lead; and for prohibiting the employment of young persons and women as dippers, dippers' assistants, ware cleaners after dippers, and glost placers in factories where lead-glaze was used.—Mr. JESSE COLLINGS replying to the question, said: The Secretary of State is fully cognisant of the conclusions embodied in the report referred to which was made to him and presented by him to Parliament. The Bill to amend the law relating to factories and workshops which he has prepared will propose to give power to the Secretary of State to deal under certain conditions with all the points mentioned by the hon. Member.

London Water Question.

At this sitting of the House the Bill of the Government with regard to intercommunication and interchange of supply in case of emergency between the different metropolitan water companies was passed through the Committee stage without amendment of any kind being made.

TUESDAY, APRIL 11TH.

Treatment of Inebriates in Scotland.

The LORD ADVOCATE, replying to a question on this subject addressed to him by Sir JOHN LENG, said that the local authorities in Scotland have been duly informed by the Secretary for Scotland as to the regulations formulated by him for the use of certified inebriate reformatories, but that as yet he has not received any applications for the establishment of such a reformatory. Her Majesty's Government proposed to defer the expenditure required for the establishment in Scotland of a State inebriate reformatory until experience has been had of the operation of the new legislation and the permanent demand it is likely that such an institution will have to meet.

WEDNESDAY, APRIL 12TH.

Midwives Bill.

At ten minutes past five o'clock—that is to say, when only 20 minutes remained for the discussion of contentious business—the order for the second reading of the Midwives Bill was reached.

Mr. A. DE TATTON EGERTON, in a short speech, moved that the Bill be read a second time in order, he said, that it might be referred to a committee. The Bill, he explained, was the result of an inquiry made by a Select Committee in 1894. The subject with which it dealt was one of immense interest to the whole country because it affected the youth and the mothers of the country, and the disclosures made before the Select Committee in 1894 as to the inefficiency of midwives were such that an influential committee was formed which had been working ever since to get a Bill passed. The Bill now, he believed, had received the acceptance of the medical profession through its heads—the Royal College of Surgeons of England and the Royal College of Physicians of London—and it had been favourably considered and received by the General Medical Council.

Mr. T. P. O'CONNOR said that he hoped the hon. Member did not think of pressing a Bill of this importance when the House had only 20 minutes to discuss it. The right thing to do would be to postpone the order to a more convenient time. He could not say that his information about the opinion of the medical profession agreed with that of the hon. Member, for he had strong reason to believe this Bill met with very vehement opposition from a large and very influential section of the medical profession. In fact, one of the Direct Representatives of the profession on the General Medical Council had strongly and openly declared himself against the provisions of the Bill. As the hon. Member had not explained the Bill he might say that it would create a number of registered midwives upon whom it would confer very large privileges and titles. The medical profession, and especially the practitioners in small country districts, were strongly of opinion that this would have the effect of substituting inexperienced, unpractical, and untrained attendants upon women, instead of experienced, practised, and trained attendants. Undoubtedly the first result would be to induce a large number of women not to employ the small country practitioner but the midwife registered under this Bill, and he could not help thinking that the consequences of this would be most disastrous to the well-being of the community. In order to be thoroughly acquainted with the subject of midwifery, a training of at least three years was required by a medical man, and it was only after this training of three years that he was in a position to attend an easy case, free from anything like complication. What would happen if this Bill became law? This registered midwife would be called in in almost every case and with her three or six months of perfunctory training she would undertake all the duties, face all the difficulties, and run all the risks that required the skill and attention of a medical man who had gone through a regular course of training. Under this Bill the midwife would be sent for, not as an assistant to the qualified medical man, but as a substitute for him. The midwife was a very good assistant, but to make her a substitute was, in his opinion, to expose a very large number of mothers in this country to very serious danger. Then, again, this Bill struck at the assistance given so often by the friendly neighbour. He held that the Bill would stop this assistance altogether. Having said this he thought that he had said enough to make good the point that this was an important Bill and could not be adequately discussed in the time now at their disposal. He therefore moved that the debate be adjourned.

The SPEAKER said that in the circumstances of the case he could not accept such a motion.

Mr. T. P. O'CONNOR: Then I move the rejection of the Bill.

Mr. GALLOWAY said he would like to know from the hon. Member who had moved the second reading the nature of the committee to which he proposed to refer the Bill.

Mr. A. DE TATTON EGERTON: The Grand Committee.

Mr. GALLOWAY said he objected to the Bill going to the Grand Committee, his opinion being that a measure of this importance should be considered by the committee of the whole House. He agreed with the view that the Bill would have in many cases the effect of substituting the midwife for the qualified medical man and indeed he thought the measure was altogether unsuited to meet its avowed objects. He therefore supported the motion for its rejection.

Sir WILLIAM PRIESTLEY said it was quite true that there was a certain amount of objection to the Bill on the part of a certain section of the medical profession, but he could not help thinking that the danger of this Bill to the interests of the medical practitioners had been very much exaggerated. The object of the measure was really to do something in the interests of poor women both in town and country to see that they were provided with properly skilled women who would be called midwives. No one could be more unwilling than he was to inflict any hardship upon the general practitioner—the man upon whom the poor depend in all their emergencies for aid and succour—but he thought that the danger to the general practitioner had been greatly exaggerated. In every country in Europe there were State regulations for midwives and these did not in the least degree interfere, as he understood, with the practice of medical men among the poor. That he considered an important point.

It was now half-past five o'clock, when by the operation of the rules of the House, the debate stood adjourned.

Seats for Female Shop Assistants.

At this sitting of the House a second reading was given to a Bill introduced by a private Member providing that in Scotland female shop assistants shall be accommodated with seats, the proportion being not less than one seat to every two assistants employed in each room.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

AMBROSE, W. C., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the East London Hospital for Children and Dispensary for Women, Shadwell, vice Stuart B. Reid, resigned.

BODINGTON, A. E., L.S.A., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

CHALMERS, A. K., M.D. Glasg., D.P.H. Camb., has been appointed Medical Officer of Health by the Glasgow Town Council.

COLLIER, JOSEPH, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed an Honorary Assistant Surgeon to the Royal Infirmary, Manchester.

COLMER, R. J., L.S.A., has been appointed, *pro tem.*, Medical Officer at Oboussi, Ashanti, West Africa.

DATE, W. H., M.R.C.S., has been re-appointed Medical Officer by the Culmstock Rural District Council.

FENWICK, P. C., M.B. Lond., L.R.C.P. M.R.C.S., has been appointed Surgeon to Christchurch Hospital, New Zealand.

GAYLOR, EDWARD, L.R.C.P. Edin., L.F.P.S.Glasg., has been appointed Medical Superintendent at the Belper Joint District Isolation Hospital.

GIMBLETT, W. H., M.D. Durh., has been appointed Medical Officer of Health to the Buckhurst Hill Urban District, vice H. Brown, resigned.

GODFREY, C. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., M.R.C.S., has been appointed Senior Medical Officer of Hospitals for the Insane, Queensland, vice R. W. Lethbridge.

GRAHAM, F. M., F.R.C.S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of the Whitmore Sanitary District of the Newcastle-under-Lyme Union.

HAMILTON, A. J., L.R.C.P., L.R.C.S., Edin., L.F.P.S. Glasg., has been appointed Medical Officer, Queenstown Hospital Union, Tasmania, vice T. E. Abbott, resigned.

HEPWORTH, A. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for Tungamah Shire, Victoria, Australia, vice E. J. Connell, resigned.

HILL, CHARLES A., M.B., B.C., B.A. Cantab., M.R.C.S., has been appointed Assistant to the Bacteriologist to the Royal Commission on Sewage Disposal.

HILL, R. P., M.B., C.M. Edin., has been appointed Medical Officer at Isisford, Queensland.

JONES, HUGH EDWARD, M.R.C.S., L.R.C.P., has been appointed Honorary Surgeon to the Liverpool Eye and Ear Infirmary.

LETHBRIDGE, R. W., M.B., Ch.M. Edin., has been appointed Medical Superintendent to the Ballarat Lunatic Asylum, Victoria, Australia, vice W. H. Barker.

MCCLELLAND, H. A., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon for the New Plymouth Prison, New Zealand, vice P. J. O'Carroll, retired.

MCCREERY, J. V., L.R.C.S. Irel., has been appointed Inspector of Hospitals for the Insane, Victoria, Australia.

MCELLIGOTT, MAURICE G., D.P.H., L.R.C.P. & S. Irel., has been appointed Deputy Medical Superintendent at the Belper Joint District Isolation Hospital.

MACGREGOR, P., L.R.C.P., F.R.C.S. Edin., has been appointed Honorary Surgeon to the Huddersfield Infirmary, vice S. Knaggs, resigned.

MACLAREN, J. P., M.A., M.B., C.M., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

MCMAHON, F. D. SUTHERLAND, L.R.C.P. & S. Edin., has been appointed Medical Officer by the St. Columb Major Rural District Council.

MAGUIRE, G. J., M.B., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

MARTIN, R. C., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Great Northern Central Hospital, Holloway-road, London.

MILLIGAN, WILLIAM, M.D., has been appointed Honorary Aural Surgeon to the Royal Infirmary, Manchester.

MONSARRAT, KEITH W., F.R.C.S.Eng., has been appointed Assistant Surgeon to the Children's Infirmary, Liverpool.

MOORE, H. C., M.R.C.S., has been appointed Medical Officer of Health by the Hereford Town Council.

NICOLL, A., M.D., Ch.M. Aberd., has been appointed, *pro tem.*, acting Medical Superintendent of the Benevolent Asylum, Dunwich, Queensland, and also Medical Officer for the Lazarette on Stradbroke Island.

NISBET, W. B., M.B., Ch.M. Edin., has been appointed, *pro tem.*, acting Medical and Health Officer at Townsville, Queensland.

O'DOHERTY, E. H., L.K.Q.C.P. Irel., M.R.C.S., has been appointed, *pro tem.*, acting Medical Superintendent, Peel Island Quarantine Station, Queensland, and also Public Vaccinator, Official Visitor to the Hospital for the Insane at Goodna, and Official Visitor for the Reception House, Brisbane.

PARKER, GEORGE, M.A., M.D. Cantab., M.R.C.S., has been appointed Joint Lecturer on Medical Jurisprudence at University College, Bristol, vice A. J Harrison, resigned.

PULLIN, F. B., L.F.P.S. Glasg., L.R.C.P. Edin., has been appointed, *pro tem.*, acting Health and Medical Officer and Visiting Gaol Surgeon at Normanton, Queensland.

PURNELL, RICHARD, M.D. St. And., M.R.C.S., L.S.A., J.P., has been re-appointed Medical Officer of Health for Wells, Somerset.

ROBIN, V. J. R., L.R.C.P. Lond., M.R.C.S., has been appointed Medical and Health Officer at Port Douglas, Queensland.

RUST, MONTAGUE, L.R.C.P., L.R.C.S. Edin. has been appointed Assistant House Surgeon to the Glasgow Eye Infirmary.

SMITH, W. B., L.R.C.P., F.R.C.S. Edin., has been appointed Medical Superintendent for the Metropolitan Lunatic Asylum, Kew, Melbourne, Victoria, Australia, vice J. V. McCreery.

TAIT, J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Sharnbrook Sanitary District of the Bedford Union.

VOORTMAN, JOHN BERNARD, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Government District Surgeon for the Town and District of Fauresmith, Orange Free State, South Africa, vice A. E. W. Ramsbottom, resigned.

WILKIE, D. W. B., M.B. Melb., M.R.C.S., has been appointed Surgeon to the Hospital at Burketown, Gulf of Carpentaria, Queensland.

WILLMOT, ROBERT, F.R.C.S. Edin., M.R.C.S., has been appointed Chairman of the Official Visitors of the Hospital for Insane at New Norfolk, Tasmania.

WILLOUGHBY, W. G., M.D. Lond. (Med. and State Med.), D.P.H. Camb., M.R.C.S., L.R.C.P., has been re-appointed Medical Officer of Health to the Borough of Eastbourne.

WOOD, M. A., L.R.C.P. Lond., F.R.C.S. Eng., has been re-appointed Medical Officer of Health by the Ledbury Urban District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BATH EASTERN DISPENSARY.—Resident Medical Practitioner. Salary £100 a year, with furnished apartments, coals, gas, and attendance.

BETHNAL-GREEN BOARD OF GUARDIANS.—Second Assistant Medical Officer at the Workhouse and Infirmary at Waterloo-road, Victoria-park, London, for six months. Salary at the rate of £80 per annum (payable monthly), with rations, furnished apartments, and washing, and £3 per annum in lieu of beer. Applications to the Clerk to the Board, Bishop's-road, Victoria-park, N.E.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN, Birmingham.—Resident Medical Officer, and a Resident Surgical Officer. Salary of each officer £60 per annum, with board, washing, and attendance at the Hospital.

BIRMINGHAM CITY ASYLUM.—Resident Clinical Assistant for three months. Board and lodging provided.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary to commence at £60 per annum, with board, washing, lodging, &c. Apply to the Secretary, 15, Richmond-terrace, Blackburn.

BRISTOL ROYAL HOSPITAL FOR SICK WOMEN AND CHILDREN.—House Surgeon. Salary £100 per annum, with rooms and attendance (not board).

CARLISLE DISPENSARY.—House Surgeon. Salary £130 per annum and apartments (not board).

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary commences at £100 per annum, with prospect of increase to £250, with furnished apartments, board, attendance, and washing.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £140 per annum, with rooms in the institution, but applicant to board himself.

DRIFFIELD UNION.—Medical Officer for Weaverthorpe District of the Union. Salary £21 per annum, with certain extra fees.—Apply to the Clerk to the Guardians, Driffield.

FISHERTON ASYLUM.—Assistant Medical Officer. Salary to commence at £100 per annum, with board, lodging, and washing.—Apply to Dr. Finch, The Asylum, Salisbury.

GENERAL HOSPITAL, Nottingham.—Assistant House Physician for twelve months. Salary £50, with board, lodging, and washing in the hospital.

HOSPITAL FOR WOMEN, Soho-square, London.—House Physician for six months. Salary £30 for that period.

LEWES DISPENSARY AND INFIRMARY AND VICTORIA HOSPITAL, Lewes.—Resident Medical Officer. Salary £90 per annum, furnished apartments, board, coals, gas, and attendance.

LIVERPOOL DISPENSARIES, 34, Moorfields, Liverpool,—Assistant Surgeon, unmarried. Salary £80 for the first year, and £90 afterwards, with board and residence.

LONDON HOSPITAL MEDICAL COLLEGE.—Assistant to the Bacteriologist and Lecturer on Bacteriology.

LONDON HOSPITAL, Whitechapel-road, E.—Obstetric Registrar.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Medical Registrar. Salary 50 guineas per annum.

MANCHESTER, CHORLTON-UPON-MEDLOCK DISPENSARY.—Resident House Surgeon. Salary £120 a year, with furnished rooms and attendance.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salary for the senior post at the rate of £50 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—House Surgeon for three years. Salary 100 guineas, with rooms, commons, and washing. Also Assistant House Surgeon. Salary £30 per annum, with rooms and washing.

ROYAL BERKS HOSPITAL, Reading.—Vacancy in the Medical Staff.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, London.—Examiners.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London.—House Physician for six months. Salary at the rate of £40 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £50 per annum, with board, lodging and washing.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, 189, High-street, Stoke Newington, N.—Junior Resident Medical Officer. Salary for the first three months at the rate of £50 per annum and afterwards at the rate of £75 per annum, with board and residence in each case.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence. Also Junior Assistant House Surgeon. Salary £2 per mensem, with board, washing, and residence.

SUSSEX COUNTY HOSPITAL, Brighton.—Surgeon and an Assistant Surgeon.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon for one year. Salary £50 per annum, with board, apartments, washing, and attendance.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W., and the VICTORIA CONVALESCENT HOME, Broadstairs.—House Physician for six months. Honorarium at the rate of £50 per annum, with board and lodging in the Hospital.

WREXHAM INFIRMARY.—House Surgeon. Salary £80, with board, washing, and furnished apartments.

Births, Marriages, and Deaths.

BIRTHS.

HILDIGE.—On April 10th, at Brookfield, Pinner, the wife of H. J. Hildige, L.R.C.P. and L.R.C.S. Irel., of a son.

HODGSON.—On April 11th, at Blisworth, Northamptonshire, the wife of Harold Hodgson, M.B., B.S. Lond., of a son.

HOSSACK.—At The Pentlands, Woodbridge-road, Ipswich, the wife of James F. C. Hossack, F.R.C.S. Edin., of a son.

MARTIN.—On April 10th, at Gloucester-terrace, Hyde-park, W., the wife of Henry C. Martin, M.D., of a daughter.

NEWBOLT.—On April 12th, at 42, Catharine-street, Liverpool, the wife of George Palmerston Newbolt, M.B. Durh., F.R.C.S., of a daughter.

SKINNER.—On April 7th, at Bank House, Rye, the wife of Ernest W. Skinner, M.D., of a daughter.

MARRIAGES.

BURNS—BAINES.—On April 8th, at Christ Church, Emerydown, Hants, Theodore G. A. Burns, M.A. Oxon., M.R.C.S. Eng., Wimpole-street, W., to Rosamund, third daughter of E. Talbot Baines, of Emerydown.

CARTER—RICHARDSON.—On April 5th, at the Magheragall Parish Church, Lisburn, Co. Antrim, by the Rev. J. P. Maud, M.A., vicar of Chapel Allerton, Leeds, assisted by the Rev. R. Walker, LL.D., rector of Magheragall, Eustace George Carter, M.R.C.S. Eng., of Chapel Allerton, Leeds, youngest son of the late Joseph Barton Carter, M.R.C.S. Eng., to Josephine Mary (Effie), youngest daughter of Joseph Richardson, Esq., Springfield, Lisburn, Co. Antrim.

CHAMBERS—WOOD.—On April 8th, at the Church of St. Mary Abbot's, Kensington, W., William Francis Chambers, L.R.C.P., M.R.C.S., Cheriton-gardens, Folkestone, to Edith, second daughter of the late Professor John Wood, F.R.S., F.R.C.S., of King's College Hospital.

CROSS—BERGUER.—On April 5th, at Holy Trinity Church, New Barnet, Ernest William Cross, M.R.C.S. Eng., L.R.C.P. Lond., of Leytonstone, Essex, to Constance Mary, daughter of the late Rev. H. J. Berguer, of St. Philip's, Islington.

MASON—LANGHORNE.—On April 6th, at St. Peter's Church, Woolley, Wakefield, George A. Mason, M.A., M.B., B.C. Cantab., of 45, George-street, Portman-square, W., to Alice Wood, eldest daughter of R. Ernest Langhorne, solicitor, Woolley Moor House, Wakefield.

MENZIES—GREEN.—On April 6th, at the Parish Church, Watford, William Francis Menzies, M.D., B.Sc., M.R.C.P., Superintendent of the Staffordshire County Asylum, Cheddleton, to Jesse (Daisy), second daughter of George Green, Watford Field House, Watford.

MORICE—SEDDON.—On Nov. 29th, 1898, at Wellington, New Zealand, Charles G. F. Morice, F.R.C.S. Edin., of Greymouth Hospital, to Louisa Jane Spottswood, third daughter of the Right Hon. R. J. Seddon, P.C., LL.D., Premier of New Zealand.

TIDSWELL—CALLEY.—On April 11th, at St. Mark's Church, Surbiton, Surrey, by the Rev. J. H. Calley, brother of the bride, and the Ven. Archdeacon Burney, Herbert Henry Tidswell, M.R.C.S. and L.R.C.P. Lond., of Camborne, Cornwall, to Agnes Elizabeth Calley, youngest daughter of the late Rev. Charles Calley, rector of Blunsdon St. Andrew, Wilts.

TRECHMANN—SWALES.—On April 11th, at St. Paul's Church, York, by the Rev. Reginald Echalaz, vicar of Willoughton, Lincs., assisted by the Rev. J. Stephens, vicar of the parish, Maximilian Lincoln Trechmann, M.B., C.M. Edin., F.R.C.S. Eng., of 131, St. George's-road, S.W., seventh son of the late Otto Trechmann, of Stockton-on-Tees, to Mary, only daughter of William Swales, Holgate-hill, York.

YOUNG—SEACOME.—On April 11th, at Hornsey Parish Church, by the Rev. E. J. Purchase, M.A., Chas. Albert Young, B.A. Cantab., M.R.C.S., L.R.C.P., of Hunmanby, Yorks., to Maria, younger daughter of the late Thos. Harrison Seacome, C.E., and Mrs. Seacome, Wem, Shropshire.

DEATHS.

BARNES.—On Wednesday, April 5th, at Perth, West Australia, John Shepperson Barnes, B.A., M.D., eldest son of John M. Barnes, of Morningthorpe, Norfolk, aged 31. By cable.

GIBBINGS.—On April 9th, at his residence, 93, Richmond-road, Dalston, London, Alfred Thomas Gibbings, M.D. Lond., aged 50 years.

RENTON.—On March 31st, at Brighton, suddenly, William Renton, L.R.C.S., L.R.C.P., L.M. Edin., L.S.A. Lond., late of Knaresborough, aged 52 years. Interred in the family vault at Knaresborough Parish Church, April 4th.

ROWLANDS.—On April 10th, at King-street, Carmarthen, James Rowlands, F.R.C.S., in his 55th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (18th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Mr. T. F. Chevasse: Note on a Case of Gastrectomy with specimen.—Dr. B. Hunt: Two Cases of Splenic Anæmia with Internal Hæmorrhages in Infants.—Dr. J. H. Drysdale: Three Cases of Sprue.—Dr. S. Wilson: Casts of Hearts with Dilated Right Ventricles.—Dr. Russell and Mr. Buzzard: Paramœcium Cysts on the Liver.—Dr. W. Hadley: Peculiar Lardaceous Liver.—Dr. H. M. Fletcher: Atrophy of Parietal Bones.

WEDNESDAY (19th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Paper:—Prof. L. S. Beale: The Bioplasm of Man and the Higher Animals and its Influence in Tissue Formation, Action, and Metabolism.

THURSDAY (20th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Clinical Evening.

FRIDAY (21st).—SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—Papers by Dr. G. H. Savage and Dr. H. G. Turney.
EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. F. R. Blaxall: The Relations of Bacteriology to Epidemiology. (The date April 14th was inadvertently printed on the Sessional Card.)

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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THE EARNINGS OF MEDICAL MEN.

THE large fortune left by Sir William Jenner has led to much writing in the lay press, but owing to imperfect information as to the source of some of Sir William Jenner's wealth much excellent moralising has been made upon unsound deductions. Sir William Jenner was for many years at the top of the medical profession, having risen there by his genius and having been maintained there by scientific acclamation every whit as much as by popular favour. During these years he undoubtedly made a very large income, but not an income that would have enabled him to save such a sum as £375,000, and as a matter of fact a certain portion of his fortune was derived from trade and bequeathed to him by a brother. But undoubtedly Sir William Jenner earned a great sum of money by the practice of his profession and the fact may legitimately act as a stimulus to young medical men to observe keenly and work hard.

The question, Which occupation pays best? is one that has been discussed more than once and no one has ever suggested that the correct answer is the practice of medicine. The usual opinion, we believe, gives the lawyer the first place and the stockbroker the second, but we incline to the belief that the wholesale supply of beer is the most lucrative following in modern Great Britain. That a few medical men have made large fortunes is well known. For instance, Sir Andrew Clark left £203,970, Sir Oscar Clayton left £146,745, Dr. Rhodes Armitage left £217,420, Dr. L. T. Cumberbatch left £107,000, Sir Richard Quain left £116,820, Mr. Henry Horsfall left £105,780, Dr. G. D. Longstaff left £107,000, Dr. Henry Danson left £119,290, and Dr. J. H. Paul left £100,052. But all these fortunes, several of which were certainly inherited and not made by professional practice, are thrown into the shade by the estate of Sir William Gull, whose personalty was valued at £344,023. Sir William Gull, like Sir William Jenner, made an enormous professional income, though fortunate investments perhaps played the part in swelling the total of his fortune that family bequests played in the case of Sir William Jenner. The above names have been taken from lists compiled by the *Daily Telegraph* and the *Westminster Gazette* and cover a period extending over the last ten years. On the strength of them the medical profession cannot be said to abound in pecuniary prizes. Only 11 persons, whether shining in the front rank of the medical profession, or engaged in one of its notoriously lucrative branches, or blessed by accident with pecuniary advantages, have died during ten years in possession of more than £100,000, while a first-class brewer's fortune would be expected to amount to more than the aggregate total of the 11 medical fortunes or the brewer would be accounted a comparative failure. We are not setting up a wail that medical men do not make more money, but the fortunes of Sir William Jenner or Sir William Gull ought not to lead the public to mistake the facts as to the average earnings of the medical profession. The profession in Great Britain numbers some 28,000 persons, and although now and again one man dies rich the vast

majority die otherwise. During their life they discharge onerous duties for very inadequate payment and at their death the provision they have been able to make for their wives and children is too frequently so scanty as to amount to nothing. In the teeth of these well-known facts why is it that the medical man's bill is so generally considered exorbitant by the public? That it is so considered, we think, is undeniable. "Doctors' bills" are the proverbial dread of paterfamilias at Christmas-time. *Punch* makes jokes about this and the theme has led to funny lines in farces and comic writing in fiction. And common conversation, as well as the amount of bad debts made by the general practitioner, confirm our belief that the medical man is apt to be regarded as one whose charges as a creditor should be resisted. Why is this? It cannot be because of any widespread belief that medical men as a body make large fortunes—that is demonstrated by the rarity with which, even under the most favourable auspices, the six figures are reached. We believe it is because the public has been thoroughly spoilt in the matter of paying the medical man. All sorts of persons get their treatment for nothing, or next to nothing, owing to the kindness of medical men. Lay associations have organised charitable treatment of the poor, the charity to be supplied by the medical man who is to treat the poor as best he can on the wages of an artizan. Many hospitals have opened their gates with scarcely any discrimination to classes well able to pay private practitioners for adequate attendance. These are the factors that by supplying medical treatment too cheaply and easily have made the demand of the general practitioner for discharge of his modest account seem exorbitant.

"THE USE OF MIDWIFERY FORCEPS."

To the Editors of THE LANCET.

SIRS,—I quite agree with your correspondent, Dr. Simpson, in THE LANCET of April 8th, 1899, that it is unseemly for one practitioner to accuse his brethren of unjustifiable practice because the use of the forceps and their advantage to both patient and medical attendant are better understood now than they were 50 years ago. I am an advocate for the use of the forceps in suitable cases without too much delay when the labour has reached the second stage. I have never had cause to regret their use and the cases of serious rupture of the perineum have been very rare. I cannot, however, claim to use them as frequently as Dr. Simpson. My average for the last five years in a practice of about 50 confinements a year I find to work out at a little over 13 per cent.

I am, Sirs, yours faithfully,

Brentwood, April 10th, 1899. J. R. WHITE.

"THE REICHARDT FUND."

DR. Goodhart and Dr. Savage acknowledge the following further subscriptions:—

	£	s.	d.		£	s.	d.
Anonymous	75	0	0	Mr. William Duff	2	2	0
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Dr. Hearden	5	0	0	Lady Glyn...	3	3	0
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FAGS AND FAGGING.

MESSRS. GEORGE NEWNES have just published a new monthly magazine for boys and "old boys" with the title of *The Captain*. It is full of good things for boys of all ages and an article on Fags and Fagging, which is almost a plea for a return to the "old days," is suggestive. Says the writer: "Those best bear rule who have earliest learned to serve and the unpaid servitude of 'fagging' still affords one of the most valuable lessons the public school can teach." To it perhaps we owe, the writer suggests, a Chatham, a Wellington, a Palmerston, and a Peel, as well as that Napoleon of public schools—Arnold of Rugby.

"THE FUND FOR THE RELIEF OF THE WIDOW OF THE LATE MR. H. KINGSLEY HUNTER, L.S.A."

To the Editors of THE LANCET.

SIRS,—The undermentioned donations have been received, the total now amounting to £20 1s.:—

	£	s.	d.		£	s.	d.
Dr. R. R. Law	0	5	0	Mr. F. H. Oliver	0	5	0
Dr. John Brown	0	10	0	Mr. A. Greenwood... ...	0	10	6
The Brussels Medical Graduates' Association	2	2	0	Mr. Herbert C. P. Masser	0	10	6
Dr. Louis J. Fitzpatrick	1	1	0	Dr. J. W. Noble	0	10	6
Dr. Dhingra	0	5	0	Dr. F. de Havilland Hall	1	1	0

I am, Sirs, yours faithfully,

RIVERS WILLSON, Treasurer.

42, Wellington-square, Oxford, April 12th, 1899.

WHAT CONSTITUTES A PUBLIC BODY OR INSTITUTION?

A MEDICAL man has submitted the following question to us:—"The last sanitary authority I was in relation with when in charge of garrison women and children asked me to notify all infectious cases, both in and out of barracks, and paid me half a crown for each case. The present one asks for only notification out of barracks and offers only one shilling in each instance. I do not consider that I am a medical officer of any public body and propose to claim the whole fee. Am I right in doing so?"

Questions have arisen as to the precise meaning as to what constitutes a "public body or institution" under Section 4 of the Infectious Diseases (Notification) Act, 1889, but we never heard it contended that a medical practitioner in charge of garrison women and children was deemed a medical officer to such body or institution; and we advise that the ordinary fee should be claimed and insisted on.

"THE THERAPEUTICS OF COMFREY."

To the Editors of THE LANCET.

SIRS,—I find in an old book printed in 1597 and called "The Herball or General Historie of Plants, gathered by John Gerarde of London Master in Chirurgeria," the following notes on the "Vertues" of Comfrey—Consolida Major.

A. The rootes of Comfrey stamped, and the juice drunke with wine, helpeth those that spit bloude and healeth all inward wounds and burstings.

B. The same bruised and laide to in manner of a plaister doth heale all fresh and greene woundes, and are so glutinative that it will sodder or glewe togither meate that is chopt in peeces seething in a pot and make it in one lump.

C. The rootes boiled and drunke doth clense the brest from flegme and cureth the greeses of the lungs, especially if they confect with sugar in syrup, it prevaileth much against ruptures and burstings.

D. The shinie substance of the roote made in a posset of ale and given to drink against the pain in the back, gotten by any violent motion as wrestling or overmuch use of women, doth in fower or five days perfectly cure the same, although the involuntarie flowing of the seed in men is gotten thereby.

E. The rootes of comfrey in number fower, knot grasse, and the leaves of Clarie, of each a handfull being stamped altogether, and strained, and a quart of muscadell put thereto, the yokes of three egges, and the powder of three nutmegs, drunke first and last is a most excellent medicine against Gonorrhœa or running of the vaines and all pains and consumptions of the backe.

F. There is likewise a syrup made heereof to be used in this case, which staieth voiding of the bloude; tempereth the heate of agues; allaith the sharpness of flowing humours; healeth up ulcers of the lungs and helpeth the cough; the receit whereof is this: Take two ounces of the rootes of great comfrey, one ounce of Lyquorice, two handfuls of folefoot rootes and all; one ounce and a half of Pine apple kernels; twenty liuiubes; two drams or a quater of an ounce of Mallowe seede; one dram of the head of Poppies; boile all in a sufficient quantitie of water, till one pint remaine, straine of, and adde to the liquor strained sixe ounces of very white sugar, and as many of the best honie, and make heerof a syrup that must be throughly boiled.

G. The same syrup cureth ulcers of the Kidneys, though they have been of long continuance and stoppeth the bloude that commeth from thence.

H. Moreover it staieth the overmuch flowing of the monethly sickness taken every day for certain daies togither.

I. It is highly commended for wounds or hurts of al the rest also of the intrailes and inward parts, and for burstings or ruptures.

K. The rootes stamped and applied unto them, taketh away the inflammation of the fundament and overmuch flowing of the hemorrhoides.

With regard to the "Vertues" of the great celandine or swallow wort Gerarde gives the following:—

A. The juice of the herbe is good to sharpen the sight, for it clenseth and consumeth awaie slimie things that cleave about the ball of the eie and hinder the sight and especially being boiled with hony in a brasen vessell, as *Dioscorides* teacheth.

B. The roote cureth the yellow iaundice that commeth of the stopping of the gall, especially when there is no ague ioyned, for it openeth and delivereth the gall and liver from stoppings.

C.—The roote being chewed is reported to be good against the toothache.

D.—The juice must be drawne foorth in the beginning of Sommer and dried in the Sunne, saith *Dioscorides*.

E.—The roote of Celandine boiled with Annise seede in white wine openeth the stoppings of the liver and cureth the iaundice very safely as hath often been prooved.

F.—The roote cut in small peeces is good to be given unto Haukes against sundry diseases wherunto they are subiect, as wormes, craie, and such like.

I am, Sirs, yours faithfully,

Newmarket, April 4th, 1899. JOHN H. MAUND.

THE ADMINISTRATION OF DRUGS BY SUBCUTANEOUS INJECTION.

To the Editors of THE LANCET.

SIRS,—The adoption of the hypodermic method of exhibiting medicines appears likely to increase in favour owing to certain advantages sufficiently apparent. The stomach is far from being chemically clean and it is not easy to follow with anything like accuracy the changes which drugs undergo when brought into contact with the gastric and other secretions. Even though it were possible to correctly estimate the degree of acidity for instance present at a given time our position in respect to the chemical

changes following our treatment would not be greatly improved' It certainly appears more simple and cleanly to introduce a medicine into the system without the intervention of the alimentary tract, and with many drugs and sufficient care it is free from risk, and the physiological effect is by comparison certain, regular, and rapid. It is unhappily a fact that much faith is sometimes required to detect the action of the most complicated prescriptions, and it is reassuring when by means of such medicines as pilocarpine, atropine, strychnine, or morphine given hypodermically we can be certain of obtaining our ends and with all possible despatch. It is doubtless a drawback that nervous patients may object to the needle in the first instance until confidence has been acquired by a repetition of the little operation. The use of the hypodermic needle is so simple that it is often entrusted to the nurse. Simple as it is, however, quite a variety of local disturbances are commonly met with. It is not necessary to do more than to mention the importance of a sterile needle and syringe and an unirritating solution or the consequences of neglecting surgical cleanliness. In selecting a situation for injection care is of course taken to avoid a vein. This is not always so easy, especially when much fat is present and the vessels are not seen or where the skin cannot be lifted freely from the subcutaneous tissue. Thus it happens that a vein may be punctured followed by (1) external bleeding, or (2) the vessel may bleed into subcutaneous tissue in which case hæmatoma results and the solution mixing with the blood is more slowly absorbed, the physiological effect is therefore longer in duration though slower in onset; and (3) the solution is occasionally injected into the lumen of the vein; the effect of this will naturally depend upon the drug used. In the case of morphine and cocaine it appears at least with some persons to be one of general stimulation; the pulse is much accelerated, the carotids throb, and patients describe the sense of fulness in the head similar apparently to that which follows inhalation of nitrite of amyl and sufficiently alarming to most patients. I have not observed any exaggeration of the narcotic effect of morphine when this accident has occurred. In view of the possibility of the needle accidentally entering a vein, which in my experience appears to happen once in many hundreds of injections in the usual method of procedure—it is important to have no air bubbles in the syringe. If the needle is entered at right angles to the course of the vessels the risk of injection into a vein is minimised, although the likelihood of pricking a vein is increased. When the needle enters with difficulty and meets considerable resistance a vein has probably been encountered, but experience alone can decide how much to allow for thick skin or a needle with a defective edge. The extent to which the little operation is painful—a point usually considered a trifling matter by the surgeon—depends upon the diameter and sharpness of the needle, the site of injection, and the nerve-supply and density of the tissues, and whether the needle is entered more or less at right angles to the surface or obliquely. Again, the needle is sometimes made to transfix the skin and the solution injected into the deep layers of the dermis after traversing the cellular tissue; this is a clumsiness for which the patient has to suffer and it is usually followed by an urticarial wheal and a good deal of local irritation. Tenderness at the point of injection lasting several days or the formation of an abscess indicates septic needle or syringe. Lastly, cocaine given hypodermically for severe neuritis will often relieve equally well wherever injected, indicating that its action is general as well as local in some cases.

I am, Sirs, yours faithfully,

Eastbourne, April 5th, 1899. FRANK ELVY.

A QUESTION ABOUT COCAINE.

To the Editors of THE LANCET.

SIRS,—I have noticed lately several statements to the effect that cocaine loses its anæsthetic properties on boiling. May I ask what authority there is for this? It is quite contrary to my own small experience.

I am, Sirs, yours faithfully,

Wonersh, Guildford, April 5th, 1899. C. SCOTT WATSON.

"A COLOTOMY CLAMP."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 8th I gave the name of Mr. W. Phayre Ryall as the author of certain modifications in a colotomy clamp. I should have written, Mr. E. Canny Ryall.

I am, Sirs, yours faithfully,

Manchester-square, W. F. A. PURCELL, M.D. R.U.I.

EXAMINATION OF MALARIAL ORGANISMS.

IN the *Maryland Medical Journal* of March 18th Dr. C. E. Simon of Baltimore, after mentioning some objections to the use of methylene-blue and eosin for the staining of blood containing malarial organisms, gives the preference to the following method recently proposed by Dr. Futcher. The air-dried blood films are fixed for one minute in a 1 per cent. alcoholic solution of formalin, and after draining off the excess are stained in a solution composed of (*a*) one part of a saturated solution of thionin in 50 per cent. alcohol and (*b*) five parts of a 2 per cent. aqueous solution of carbolic acid. After staining for 30 seconds the specimens are washed in water, dried between filter paper and mounted in Canada balsam or oil of cedar. The red corpuscles are stained a light lavender, while the nuclei of the leucocytes and the malarial organisms are coloured a purplish red. Preparations which are very clear and also free from precipitated pigment may be obtained by a method similar to that of Ehrlich for the demonstration of glycogen. The air-dried blood-films are fixed for a few minutes in absolute alcohol and after drying are exposed to the vapour of iodine for from 10 to 15 minutes. Dr. Simon places solid iodine in a small glass dish provided with a well-fitting cover and the specimens, blood-side down, upon little tripods of glass so as not to come in direct contact with the iodine. When the specimens present a well-marked yellow colour they are mounted in a drop of syrup of levulose. Unfortunately the colour of the red corpuscles fades after from 12 to 24 hours, so that the preparations cannot be preserved.

W. G. G.—It is somewhat difficult to give an exact answer to our correspondent's question. In Burdett's Hospitals and Charities for 1898 are given statistics of the expenditure of two fever hospitals—namely, the London Fever Hospital and the Cork-street Hospital, Dublin. At the London Fever Hospital in 1896 the daily average number of beds occupied was 100, and the average cost per bed occupied was £105 10*s.* At Dublin the average number of beds occupied was 193, and the average cost per bed was £36 10*s.* At the London Hospital the figures for preceding years were as follows:—

Year.	Cost.	Average number of beds occupied.
1896	£105 10*s.*	100
1895	£119 0*s.*	78
1894	£161 5*s.*	56
1893	£82 0*s.*	120

Thus the more beds there are occupied the less the average cost per bed. The cost per bed is arrived at by dividing the daily number of beds occupied into the total ordinary expenditure. We should not say that £30 per bed per annum was high, and probably the average expenditure on a hospital of 36 beds would not be more than on one of 24.

Query.—There is, we believe, no book dealing specially with the construction and cost of infectious hospitals. The matter is dealt with generally in Burdett's "Hospitals and Asylums of the World," vol. iv., where a number of plans and descriptions are given of infectious hospitals. Dr. Mouat, in Saxon Snell's "Hospital Construction and Management," also deals with the matter generally.

Practitioner will see at once that such notices of removal may become the source of grave abuse. The advertisement he suggests has nothing objectionable about it, but it should not be inserted more than two or three times. If it were repeated often it would rightly be regarded as a disguised advertisement.

B. W. B.—1. Not yet, but several, we believe, are in course of preparation. 2. We know of no institute especially designed to meet such cases, but the patient might, we think, obtain hospitality upon the terms mentioned if his wants were advertised.

Bronchocele.—The question cannot be definitely answered as the nature of the goitre-producing substance is not specifically known.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 13th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
April 7	29·15	S.W.	0·07	75	57	47	47	49	Stormy
,, 8	29·57	N.W.	0·20	96	57	43	41	46	Cloudy
,, 9	29·69	W.	0·12	101	57	37	43	47	Cloudy
,, 10	29·57	WNW	0·40	102	62	45	52	54	Overcast
,, 11	29·70	N.	0·14	94	59	42	42	43	Overcast
,, 12	29·80	N.W.	0·01	90	59	36	39	41	Cloudy
,, 13	29·17	S.W.	0·02	82	52	41	41	43	Raining

During the week marked copies of the following newspapers have been received: *Cheshire County News, Wigan Observer, East and South Devon Advertiser, Barrow Herald, Northampton Mercury, Manchester Guardian, Scotsman, Builder, Edinburgh Evening Dispatch, North British Daily Mail, Architect, Citizen, Eastern Morning News, Sun, Times of India, Pioneer Mail, Newcastle Daily Chronicle, Bradford Observer, Bath Herald, Leicester Daily Post, Dundee Advertiser, Longton Times, Liverpool Daily Post, Daily Chronicle, Leeds Mercury, Sheffield Daily Telegraph, Bedford Times, Daily Mail, Bristol Mercury, Halifax Guardian, Staffordshire Advertiser, Yorkshire Post, Brighton Gazette, Wiltshire Chronicle, Bury Guardian, Epworth Weekly Herald, Preston Herald, Kentish Chronicle, Dover Express, Ilfracombe Gazette, Faversham News, Warwick Times, Rugby Times, Retford News, Berks Advertiser, Horncastle News, Reading Mercury, Hertfordshire Mercury, City Press, Sanitary Record, Local Government Journal, Echo, Local Government Chronicle, Bournemouth Visitors' Directory, Mining Journal, Surrey Advertiser, Reading Observer, Montgomery County Times, South Durham Mercury, Weekly Free Press and Aberdeen Herald, Berkshire Chronicle, Stockport Chronicle, Evesham Journal, Western Daily Post,* &c., &c.

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